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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY



THIS ISSUE . . .

**Production Of Films For Television
Economy Lighting With Photofloods**

**JANUARY
1950**

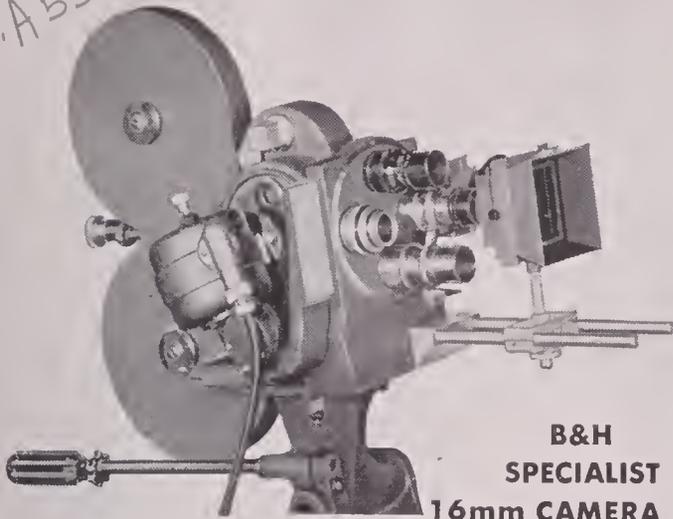


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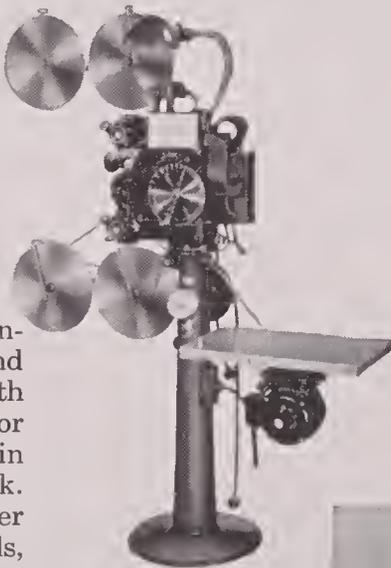
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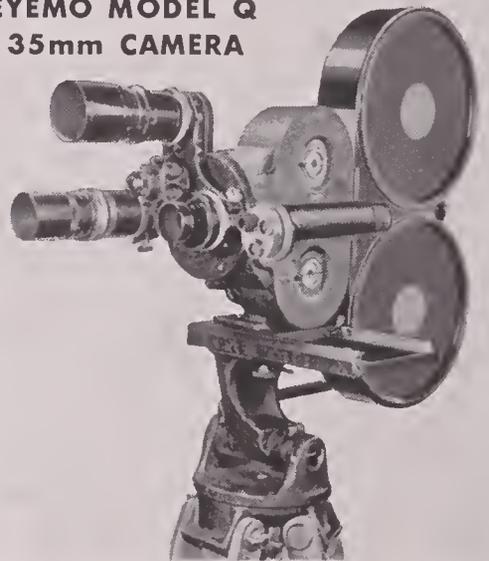
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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

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ON THE COVER

CURIOUS bear cubs climb over cameraman Joe Rothberg of Dekko Films, Boston, as he tries for some closeup shots with his Eyemo camera for Bob Emery's "Small Fry Club" television show. Zekalin Walsh keeps the cubs interested in the proceedings by feeding them honey, getting some in Rothberg's hair, which attracted the cub seen nuzzling him affectionately.

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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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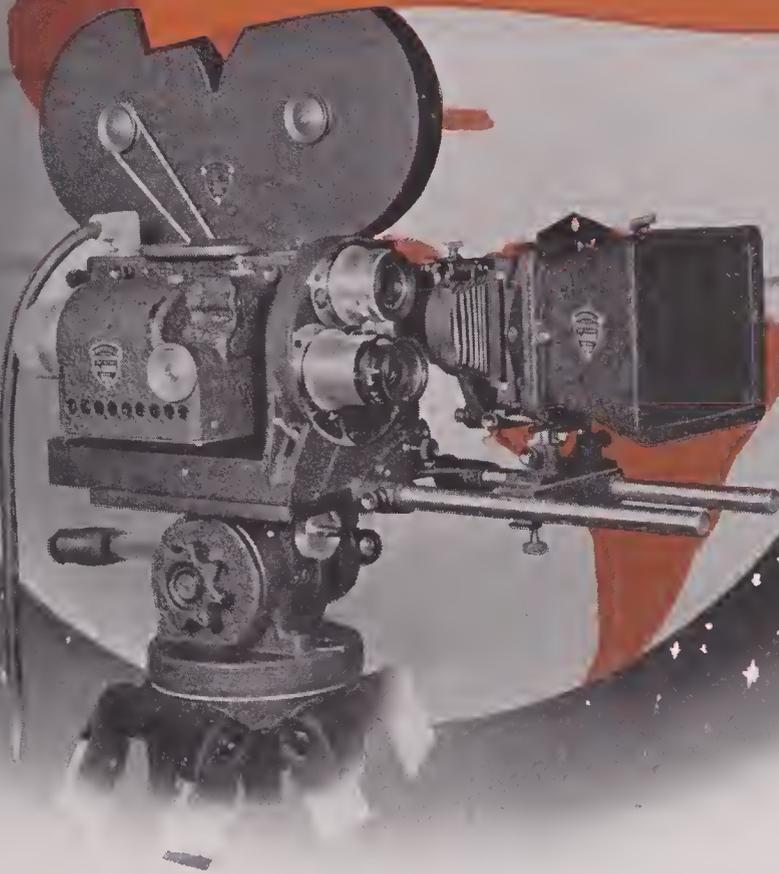
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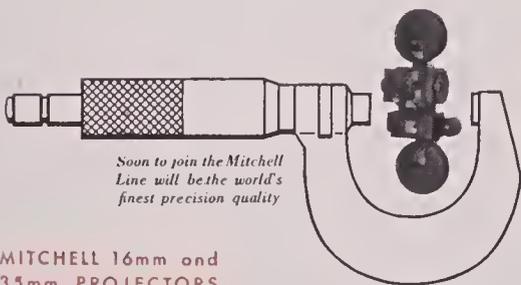
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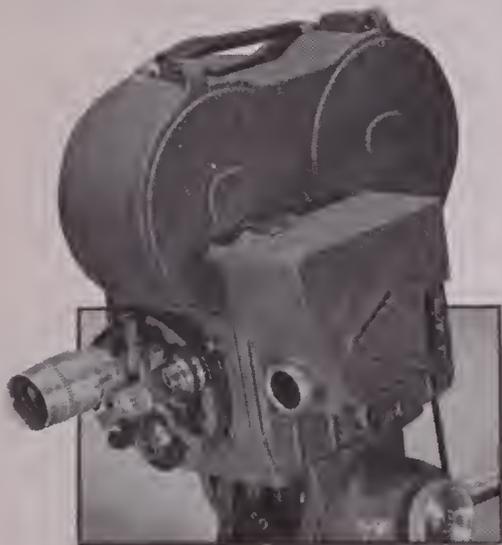
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**MANUFACTURERS OF SOUND-ON-FILM
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Hollywood Bulletin Board

JOHN DORED, A. S. C., Paramount News cameraman, has been assigned a new field of operations—covering news events in Scandinavian countries—with headquarters in Halden, Norway.

RKO STUDIO, during 1950, will produce or distribute films made in four different color processes. Studio, which has stuck pretty close to black and white film in the past, will have on its schedule this year films made in Technicolor, Ansco Color, Cinecolor and Truecolor.

NATIVE CINEMATOGRAPHERS of India will see in use the first camera boom ever put into operation there when Ken L. McEldowney, brings to India this month a Hollywood studio boom and a half-million dollars worth of camera and lighting equipment to aid in the production of "The River." Claude Renoir, brother of Jean Renoir, producer, director, has the camera assignment.

EIGHT MILLIMETER movie films are now being televised over station KFI - TV, Los Angeles. Studio engineers accomplished feat by working out a new shutter system and method of synchronizing a standard 8mm. projector with the TV pickup system. At present 8mm. films are telecast only on a special home movies program but use of narrow film may extend to commercials and animated titles.

WILLIAM DANIELS, A. S. C., to show his appreciation for the cooperation given him and his Hollywood camera crew by Italian technicians, who worked on the foreign shooting of Universal's "Deported," gave a dinner in Sienna for the crew after winding up the picture. After the two-month stay in Italy, Daniels thought it would be appropriate to celebrate with the men who had helped make the production an enjoyable undertaking. But he failed to consider the Italian's habit of bringing along members of his family whenever invited to a social function. Came tab - picking - up time and Daniels found himself with a guest list—and a food and drink bill—for 32!

JOHN ARNOLD, A. S. C., head of the MGM camera department, will soon unveil a radically new camera car said to insure rock steady photography of chase scenes and travel shots over any kind of terrain.

MARY PICKFORD, speaking at the dedicatory ceremony which opened the George Eastman House in Rochester, New York, in November, credited Charles Rosher, who was her personal cameraman for many years, with the first use of artificial light for booster illumination on outdoor shots back in the old Lasky Studio days.

RED SKELTON, who was honored guest of American Society of Cinematographers at its monthly dinner in Hollywood in December, outlined plans for authoring a new and novel book on photography. Tome would include humorous highlights of the most interesting filming experiences of Hollywood's cameramen.

RAY FERNSTROM, A. S. C., has completed shooting "Constant Challenge," a 35mm. industrial film produced in Ansco Color by Hal Roach for Union Oil Company. Production, which chronicles history of oil company, utilized over 30,000 feet of Ansco Color and probably widest array of techniques yet employed in an Ansco Color production, including background projection with a single projector, matte shots, and M. B. Paul translucent backings.

PARAMOUNT STUDIO has purchased a Mitchell 16mm. Professional camera for use in shooting tests.

MOTION PICTURE Research Council, Inc., announces availability of a new test film to be used as a final listening test of 35mm. sound reproducing equipment. Five hundred feet in length and conforming to ASA standard Z22.60, test film has picture and sound consisting of main title music, four dialogue samples, piano music, high level vocal selection with orchestra and a sound effects sample.

A 16mm. version, which conforms to proposed American Standard Z22.79 and replaces 16mm. Sound Projector Test Film Z52.2, is also available. These and other types of test film for 16mm. and 35mm. sound equipment are available from the Motion Picture Research Council, 1421 North Western Avenue, Hollywood, and from the Society of Motion Picture Engineers, 342 Madison Avenue, New York 17, New York.

Another big step forward

the new Maurer 16-mm MULTIPLE SOUND TRACK

A very substantial improvement in sound reproduction in the average projector is possible with this new type of 16mm. sound track.

The Maurer multiple track replaces the ordinary single track with a group of six within the same area. All of the six tracks are identical, so that any possible lack of uniformity in the projector scanning beam will be minimized.

16mm. producers in all fields will welcome this advance for two excellent reasons. First, it means better reproduction of their prints wherever they are run in the field and, second, the new track may be recorded perfectly without changing the familiar technique which Maurer recording equipment has already brought to the industry. The new track is equally advantageous with black and white or color and may be processed and printed by the same techniques as in the past.

Advantages of the new track, while readily demonstrable by intermodulation distortion measurements, are generally apparent on simple playback; it *sounds* better on the average projector.



The new Maurer Recording System, incorporating the six-track galvanometer, will be commercially available early next year.

In line with the Maurer policy of protecting its customers against obsolescence

as far as is possible, all owners of the Maurer Model E System will be invited to convert their equipment to the new six-track recording, at a cost which will not exceed the difference between the initial costs of the two systems.

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PHOTOFLOODS—lamps originally designed for amateur photographers—found new status as a professional lighting tool in the production, "Deported," filmed in Italy. Here clusters of RFL-2's are shown supplying fill light for an exterior shot filmed in Sienna by William Daniels, A.S.C., (left) and his crew as Director Robert Siodmak looks on.

Economy Lighting With Photofloods

Recently developed 'quad' unit employing four RFL-2's proves time-and-money-saving source of illumination for U-I camera crew shooting on location in Italy.

By FREDERICK FOSTER



ACTUAL THEATRE interior in Sienna, Italy, posed no lighting problem for cinematographer Daniels, who used photofloods entirely to light it, and with excellent results.

PHOTOFLOODS, those incandescent photographic lamps once thought of as a lighting source solely for amateur photographers, have now become a major tool of the professional cinematographer. Used increasingly during the past eighteen months for illumination on locations and to augment regular studio lighting units, more recent developments have established the photoflood as one of the most important adjuncts in the lighting of motion picture sets today.

Perhaps their first practical and widespread use in major film production came in for attention when Director of Photography William Daniels used photofloods in filming scenes for the Academy Award-winning "Naked City" in New York. By this time, Universal-International studio had developed the quad-light, a deep, rectangular pan fitted with porcelain receptacles to accommodate four RFL-2 photoflood lamps. These can be plugged into any 110-volt utility line. When the line is adequately fused, it will provide current for a sufficient number of quads to illuminate the average location interior or stage set. Thus a considerable

saving is effected by doing away with the cost of transportation of a generator.

Drawing on his location filming experience in shooting "Naked City," Daniels recently completed photography in Italy of the greater part of Universal-International's "Deported," in which photofloods played a dominant part both in the illumination of interior and exterior sets and in effecting marked economies in production costs.

The economy side was pointed up by Daniels who contrasted the 32 hours that was required to transport to Italy by air the compact photoflood illumination units

used for "Deported" against the fourteen days that were required in transporting lighting equipment used in shooting "Ben Hur" in Italy several years ago. What amounted to virtually a trunk full of photoflood lamps and another trunk of collapsible portable standards to hold them, enabled Daniels to wind up shooting of "Deported" under budget and under schedule. His company shipped no heavy lighting equipment from Hollywood except a couple of war-surplus army searchlight generators which furnished power when local utility lines were unavailable. One such generator

provided sufficient power to light twelve four-lamp quad units—forty-eight photo-floods in all.

Because of their portability and the ease with which they can be handled, the quads were used to supply fill light in exteriors shot in sunlight in place of reflectors. "There were a great many scenes," said Daniels, "in which the action was staged in deeply shaded locales, and in each case we used photofloods entirely for the illumination." One of the accompanying photos shows such a scene staged on a sidewalk cafe in Sienna, Italy, shaded by a deep, overhanging canopy. Ample use of photofloods here gave the illusion of normal daylight.

One of the most interesting interior sequences was filmed indoors in the auditorium of a little theatre in Sienna. The entire interior was adequately lighted by photofloods arranged on the stage and reflecting light toward the audience—a setting that ordinarily would call for considerable heavy lighting equipment. "Not only were the photofloods ample for lighting the theatre," said Daniels, "but we had to subdue the practical lights, of which there were many, in order to achieve the desired lighting of the auditorium."

When shooting critical interiors where the camera faced windows—essential in many scenes in order to pick up some of the exterior setting outside—Daniels accomplished this successfully by boosting the level of interior lighting to equal that of the exterior. No filters were used on the windows as is so often done when shooting on location in Hollywood. Also, said Daniels, Double-X film was used in shooting these interiors, and this plus the high light level combined to make such shots successful.

Daniels used three kinds of black and white film in shooting the Italian location scenes: (1) Background X for normal

(Continued on Page 20)



PHOTOFLOODS replaced sunlight reflectors in supplying fill light for many exteriors such as this one made in the shade of a deep canopied sidewalk cafe.



USE OF powerful arc lamps makes it possible to illuminate large sets with reasonable numbers of units and obtain desirable modeling effects and directional control over lighting. Moreover, color of the arc lamp light is ideal for color photography.

Carbon Arc Studio Lighting

By W. W. LOZIER

National Carbon Company, Inc., Fostoria, Ohio.

STUDIO LIGHTING with carbon arcs, except for a brief period when the introduction of sound suddenly outmoded the older equipment and forced the development of quieter units, has been from the beginning a very important factor in motion picture production. Particularly since the introduction of Technicolor with its requirement of a daylight quality light, carbon arc lighting has found increasing favor. In the years following, there has been development of a number of different lamps and associated carbon trims as the need for them was visualized, with the result that carbon arcs are used almost entirely on Technicolor and also have an important place in the lighting of black and white pictures.

The type 90 and the type 170 spot lamps were described by Mole-Richardson in 1936. The improved features of design and construction in these lamps gave them ready acceptance in the studios. Continuous rotation and feeding of the carbons did a better job of maintaining the proper carbon positions during burning and gave steadier and more dependable operation. Careful thought and attention to the problem produced quieter lamps than previously. The adaptation of the Fresnel lens to the carbon arc spot lamp produced a well distributed beam of radiation and gave the desired flexibility and control.

Carbon development projects were carried on coincidental with lamp development. There was a tendency with some of the early spot-lamp carbons for the flame to occasionally flash back on to the shell back of the crater. The disturbance lasted only a fraction of a second but was enough to be observable. After trying many different attacks and burning many hundreds of trims, we were able to develop a carbon which eliminated this difficulty. Then too, after other lamp noises had been quieted down it was observed there was a residual frying noise which was traced to the negative carbon. An intensive research program was carried on with the result that the copper coated motion picture studio negatives were introduced about 1938. These together with lining of the

(Continued on Page 24)

The Production Of Films For Television

Too many motion pictures made for television have not provided good receiver tube image quality. Eastman Kodak set its researchers in quest of answer, now offer recommendations for improved photography of television films.

Condensed from "The Use Of Motion Picture Films In Television," by Eastman Kodak Company

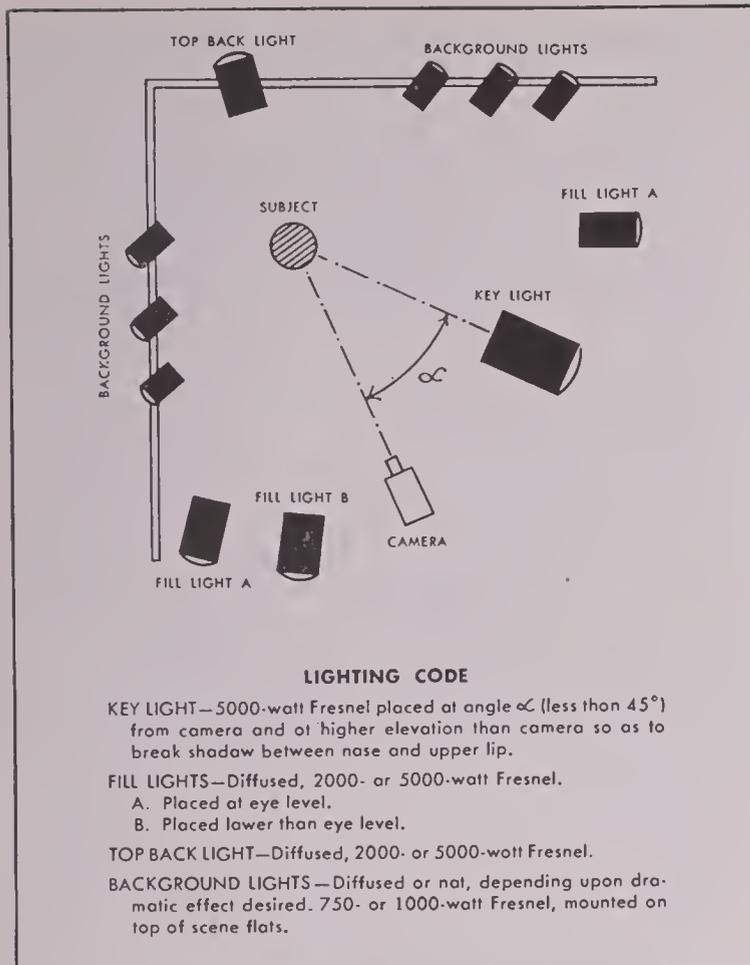


FIGURE 1—Typical studio lighting arrangement.

WITH THEIR SIMILAR modes of expression it is quite natural that motion pictures and television should have mutual interests in presenting a program to the public. Television offers, within limits, immediacy in presenting events as they occur, and this feature is often of vital importance to the success of a program. Much program action must be positive in character and must be properly presented if it is to deliver the intended message. The solution to this problem is to record the action and sound on motion picture film, which may be appropriately cut and edited as is customary in the production of professional motion pictures for other uses. In this way, every action, movement and effect may be advantageously used to achieve realism and to transmit ideas forcefully and in a convincing manner.

The majority of films which have been telecast to date have not provided good receiver tube image quality. Many factors have contributed to this situation, among which may be mentioned the lack of planned production of films for television use, poor photographic quality of prints, bad physical condition of the film, and last but not least—the rapid expansion of television with an enforced low program cost.

Experience has demonstrated that motion picture production with planned procedure and with the use of the proper techniques can give high quality sound films for television use at very nominal cost.

The procedure to be followed in making motion pictures for television purposes is similar to that used for making conventional motion picture productions, with only slight variations from standard techniques. For economic reasons, emphasis should be placed on careful planning and speed, while from the technical standpoint it is important to recognize certain characteristics of the present television system. As in regular motion picture production, the best professional guidance, equipment and technique are to be recommended if successful results are to be obtained. The following recommendations are based on the above considerations.

Camera Equipment—For television studio photography, either 35mm. or 16mm. professional or professional type motion picture cameras operating at the standard sound speed of 24 frames per second or 90 feet per minute (36 feet per minute for 16mm. film) may be used. Whenever synchronized sound is to be recorded as part of the production, cameras must be

(Continued on Page 26)

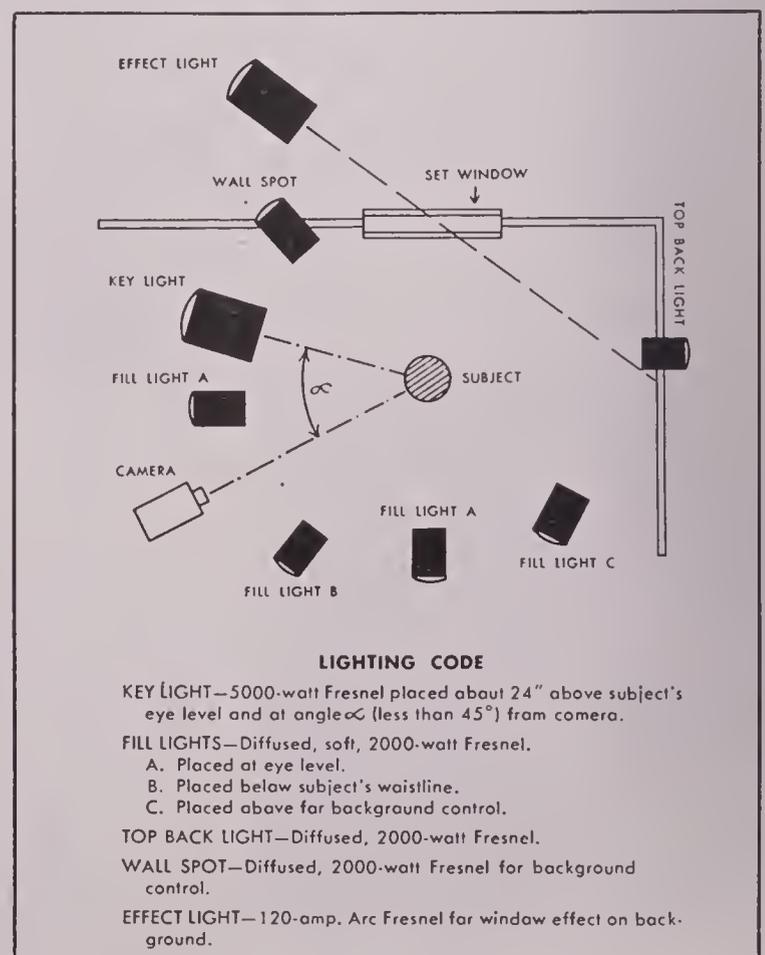


FIGURE 2—Typical arrangement of lamps for window effect lighting.

THE COLOR of illumination may have considerable effect on the quality of color pictures. Sometimes the effect is advantageous. At other times it is adverse. In any case it is well for the color filmer to have some control over the matter.

Sometimes, as is the case within studios, the color of the illumination may be controlled at the light source. This may be accomplished by means of voltage change on the lamps, or by the use of gels, or both.

At other times, as is the case with outdoors pictures, control of the light source is not possible, so it is necessary to use color filters of a special type adjacent to the camera lens.

In order that these corrective measures may be appropriately applied, a few points in regard to illumination color may be kept in mind.

The illumination sources with which photographers usually work include the sun, incandescent lights, and carbon arc flames. These light sources all fall into the continuous spectrum classification. They have characteristics such that the balance of colors therein may be classified by a color temperature rating.

A color temperature rating as a means of describing the color of an illuminant was apparently first used by Hyde about 1911. Since that time this method of assigning color temperatures to incandescent bodies has come into general use. The temperature scale used was the absolute or Kelvin scale. Hence the term "degrees Kelvin" or "°K" has become rather general.

The point of most importance to a photographer is that as color temperature changes, the ratio of red component to blue component in the illumination changes. At low color temperatures the red component is predominant. At high

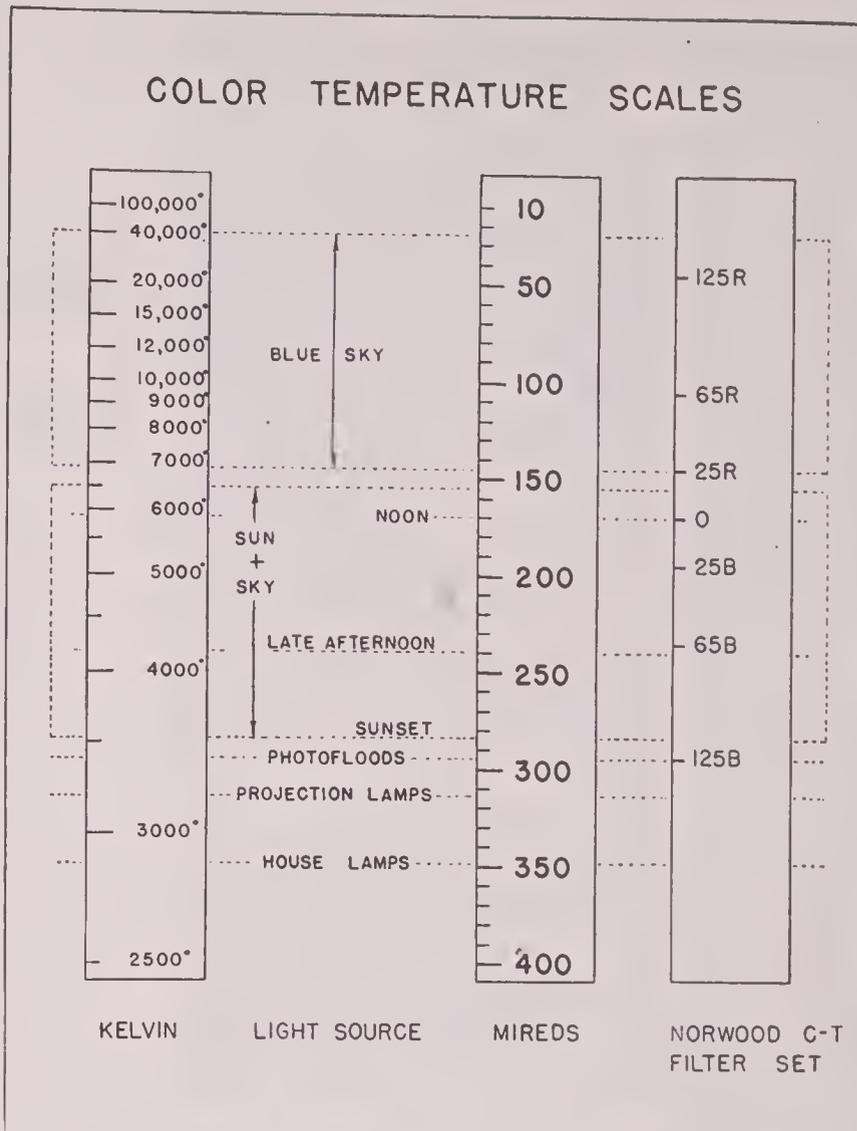


Fig. 1

CHART shows useful range of the "degrees Kelvin" scale and the relative corresponding values of the Mired scale. Also shown are the Mired values for various types of light sources. At far right is the Norwood color temperature scale which indicates the color correction filter to use for a given light color temperature, when used in conjunction with the Norwood color temperature meter.

Rating Color Temperature

Mired scale considered more critical than Kelvin in measuring color temperature.

By CAPTAIN DON NORWOOD

color temperatures the blue component is predominant. At an intermediate color temperature the red and blue components just balance. This is the condition found under noonday sunlight plus skylight. It is the condition for which daylight type color film is balanced.

The useful range of a "degrees Kelvin" scale may be seen in Fig. 1. Also shown in Fig. 1 are various illumination sources. The positions of these various sources relative to the Kelvin scale are a matter of some interest.

The Kelvin scale is quite useful for many purposes. However, it does have

one serious weakness. A given color difference, such as might be caused by a filter, is not represented by the same number of degrees Kelvin when used at different parts of the scale. For example, a thin blue filter, such as may be used to change color temperature, might have a difference value of 50°K when added to a lamp burning at 2500°K, and a difference value of 3800°K when added to skylight of 20,000°K.

Similarly, a color temperature meter might have an accuracy rating that would be expressed by plus or minus 100°K at

(Continued on Page 28)



Fig. 2

A FEATURE of the Norwood color temperature meter is the provision for instantly interchangeable scale plates which fit around periphery of meter.



HALF 16MM. FRAME, above, shows six-unit sound track recently introduced by J. A. Maurer, Inc., makers of professional 16mm. cameras and sound recording equipment. All six tracks are identical, so that any lack of uniformity in the projector scanning beam will be minimized.

New Multiple Sound Track for 16mm. Films

Six tracks instead of one increase sound quality; should improve the value of 16mm. films for television.

By LEIGH ALLEN

a serious effect on the quality of sound reproduction when using the regular track. As a matter of fact, numerous studies made during the past year have revealed that a great many 16mm. projectors in an average state of adjustment introduced from 15 to 30 percent intermodulation distortion because of the lack of accurate adjustment of the two factors mentioned. Eight to ten percent intermodulation distortion is generally considered the maximum permissible in the 35mm. film industry.

The new multiple VA track is said to largely eliminate these sources of distortion. With a group of six identical VA tracks in place of one, a variation even as great as 50% in the illumination in the projector sound-scanning beam will still provide substantially undistorted wave form. This is because the variation over any individual modulated area of the new track is extremely small. Since the total signal reaching the photocell of the projector is the sum of the signals given by six individual tracks, each of which has very low distortion, the total reproduced signal has low distortion. Similarly, the harmonic distortion of wave form due to azimuth error is reduced. Overall intermodulation distortion is brought down to values of the order of five per cent, which is excellent performance. Actual listening tests with the new type of track have shown that the improvement is quite as apparent to the average audience as to the engineer.

Further advantages of the new multiple track are that it is recorded, processed and printed with the same techniques as are now used for single VA tracks using the well known Maurer 16mm. recording equipment and that there is no sacrifice of any desirable quality previously obtainable in the single track. Direct positive or negative tracks may be produced in standard operation and "noise reduction" is fully as effective as it is with the former type of track. It has been found that signal-to-noise ratios in excess of 45 decibels are readily obtainable in regular commercial practice.

Although the multiple track is new to the United States for commercial recording use, the basic idea is not original. As far back as October, 1918, a German patent was issued to E. M. C. Tigerstedt for a sound recording optical system that produced a multiple track. In the United States, patents were issued to S. O. F. A. Berglund in 1926 and 1927 covering methods of producing such tracks and others have, at various times, been experimentally active. However, in at least one well known instance, the track was divided into a considerably

(Continued on Page 28)

THE FAMILIAR bilateral type of recording in a single line is replaced by a group of six smaller variable area tracks, each a duplicate of the other and one-sixth the width normally employed in a new system of sound recording introduced by J. A. Maurer, Inc., New York. The multiple track, which contains twelve simultaneously modulated, identical areas marks a major improvement in sound reproduction for 16mm. films.

Of outstanding practical value to producers of 16mm. industrial and television films is the fact that prints incorporating this new track will reproduce with much better fidelity on most 16mm. sound projectors now in use. The result, it is claimed, will be much more uniform reproduction from the point of view of clarity and naturalness because much of the wave-form distortion that occurs with other types of sound tracks is eliminated.

The new Maurer 16mm. multiple track accomplishes this result because of its identical duplication of six complete variable area tracks across the normal width of an ordinary track. Most 16mm. projection equipment now in use does not receive the same careful maintenance which is given professional theatre projectors. As a result, the scanning light beams of the 16mm. projectors depart from perfection in two ways. First, they are not uniformly illuminated from one side of the sound track to the other and, second, they are not correctly adjusted for "azimuth"—that is, for the ideal positioning at an exact right angle to the direction of film travel.

Lack of correct adjustment in either of these respects has

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TIME OF DAY is an important consideration in shooting color out of doors. Shooting a scene like this, in late afternoon when there is an abundance of red in the sunlight, requires careful color temperature reading of the light and use of proper color-correction filter.

Lighting For Color Movies

If you want colors to reproduce faithfully in your color movies, watch the quality as well as intensity of your light source.

By CHARLES LORING

A CAMERAMAN shooting a motion picture in black and white is concerned with light mainly in the quantitative sense. The amount of light reflected from the subject onto the emulsion is of prime importance to him; any other characteristic of that light is secondary. When filming in black and white, the cameraman has great leeway in his use of light. He can mix artificial light with daylight without risk—in fact, it is often only through the grace of this mixture that he is able to photograph certain scenes at all. He can shoot motion picture scenes any time from early morning to late afternoon, and he need be concerned only with whether he has a sufficient intensity of light to make the exposure. Also, he may take separate scenes of a sequence on different days, in different locales, and under different weather conditions, and still achieve a consistent lighting quality in the sequence if the scenes are properly printed.

In color filming, all of this is different. The cameraman must worry not only about the amount of light (and this can become a real worry, due to the fact that three or four times as much light is required), but he must also carefully consider the quality of the light which he uses. Whereas in the black and white film, white light is recorded in terms of a grey scale, in color filming "white" light is often anything but white. A dozen or so different variables can give the lighting a color cast which readily becomes a nightmare to the cameraman who is trying to achieve a certain effect, or maintain consistent light quality within a sequence which must be shot under varying conditions.

(Continued on Page 23)



CHIEF ADVANTAGE of shooting color film indoors is that the light can be controlled, and the same lighting setup can be duplicated day after day where shooting must be done at intervals over an extended period of time.



THE LATITUDE of color film is far less than that of black and white, and for this reason light meter readings should be taken carefully before starting to shoot. Basic light reading should be made for flesh tones, as shown here.



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CAMERAMAN Mark Doyne and director Gordon Ray prepare to shoot a closeup for "the sequence of life," symbolized by the growing plant, for their 16mm. film, "Out Of The Shadows," an experiment in film technique.

An Experiment In

structor at the University of Minnesota. We had only one objective in mind—exploring the film medium. It was thus hoped that by being free of any axes to grind or philosophies to portray, a fresh and more plastic approach to the screen could be reached. We could let ourselves go, and this it seems is what art is driving at.

Art is lyrical and there is a place for a certain freedom on the screen. We felt that the screen should be free of the restraint of many of the conventional methods and be approached from a different viewpoint. However, the danger involved in such an approach is that the group might seek only after art for art's sake, taking in anything that might fall within the scope of the view finder and calling it the "modern" approach.

To reduce the possibilities of this danger, which has plagued so many explorers in every art form, we attempted to establish some definite conceptions from which we could proceed. As a beginning we took the well blazed trail that Aristotle had beaten for us when he said that "in part, art completes what nature cannot elaborate, and in part it but imitates nature."

With this much established we set out to find a location that suggested a mood, and we hoped to enhance or elaborate on this mood by means of a simple theme interpreted through the modern dance. Several days were spent in searching Minneapolis. Junk yards, parks, industrial areas, and even the city streets were weighed as location possibilities. And strange was the location we chose: on a stretch of river bank where once had stood the old stone mills of St. Anthony. Now long since fallen to ruin, the crumbling foundations were in startling contrast to the sleek new grain elevators that rose on the river bank above. Starkly naked girders extended into space sup-

PAINTING, photography, film and television belong to the same realm, that of visual expression. People take part in art for a variety of reasons, and the desire to discover something for one's self has resulted in many great adventures. This longing has led men up the dangerous mountain crags of the Matterhorn and deep into the jungles of Africa. It led a group of us, comprising ciné and art enthusiasts, into a safer though equally stimulating realm—that of the silent motion picture.

Our "expedition," headed by Gordon Ray, set out to discover and explore some of the possibilities of the screen as an art medium. The expressive modern dance techniques seemed to lend themselves as a possible basis around which to build a theme to carry our ideas. Like all expeditions, ours had its share of disappointments and discoveries. Our first problem was to find those of our associates who wished to explore purely for the love of discovery. We called together all whom we felt might be interested in the venture, and in explaining the plan to them Gordon stressed the problems, difficulties, frustrations, and hard work that the project entailed.

At the close of our pre-production meetings only seven of the original group stayed with the expedition. These were the two camera men, Mark Doyne and Leo Stock; Eunice Brown, a young negro woman, and Anna Leisa Stabb, a German refugee, both students of the modern dance. After considerable discussion with Gordon Ray, who directed the filming, I wrote the shooting script in cooperation with Meg Torbert, an in-



SYMBOLIC dances were staged against such rugged backdrops as this old Minneapolis mill ruin. Here camera crew is running out the tape for a focus measurement while the dancers await the call for "action."

Film Technique

Explorers in cinema art make a safari into the realm of visual expression.

By CLIFFORD L. TIERNEY, JR.

porting nothing, serving only as a lofty roost for an occasional pigeon. Yet all this that should have been silent was made alive by the roar of the water through the flumes and the shouts of the millers from above. Pictorially the ruins did not seem desolate, but a functioning, integral part of the new mills. They seemed a foundation, a support, a producer of the new. This bizarre location suggested the theme for the dancers—*progress*.

We spent a week on the location in preparation before actual filming, absorbing the mood, writing the script, and gathering together necessary equipment. Our camera equipment consisted of a spring motor driven Cine Kodak Special, with the standard one inch lens, and equipped with 200 foot magazines. A wide angle lens and three inch telephoto lens were used for desired effects in various situations. A Professional Junior tripod was used throughout the filming, and a Weston exposure meter was employed for making light readings.

The filming was done on Eastman plus X negative stock and from this original a work print was made for viewing scenes and for cutting. After seeing the location in various kinds of weather and at different times of day, we felt that the early morning hours expressed most adequately the dominant mood of the locale. The clear, soft light with its long shadows brought out to best advantage the textures in the



TWO CLIPS from the sequence in which a dancer is shown emerging from the old era to the new—the "new" symbolized by the backdrop of modern industrial vistas.

crumbling ruins. It lent pictorial quality to the dancers' movements, and held the mood of the scenes together as a unified whole. All except two scenes were shot in these early morning hours.

With all the enthusiasm of seasoned explorers the group was on the location at four-thirty in the morning. Shooting began in the hours immediately after the sun rose. After seeing the first day's rushes we discovered something was radically wrong. The dancers were good in their portrayal of the theme, and the background was in harmony with the dancers. Yet we were left cold. Nowhere had we touched the terrifying grotesqueness that lay in the location. Now the real exploring began. We looked more closely into the possibilities of the medium and experimented with various camera techniques: long dissolves, double and triple exposures, and montages.

The way of finding an art is not always easy. The first scene called for a shot of Anna Leisa on a narrow expanse of wall, weeping. By experimenting with different camera angles and positions and by revising the continuity of the script we changed the beginning, which had left us unsatisfied, to an extreme closeup of the dancer's face as she sat weeping. The camera then panned down to where a tear had splashed in the dust. From this shot of the dust with the still moist tear crater visible a long lap-dissolve of white rushing water covered the screen. A second lap dissolve brought in Eunice's dark hand covered with sea weed which arose from the spot where the tear had been. The scene was made extremely effective by paying particular attention to the rhythm and the interplay of light and dark as it moved through and tied together the scenes. This sequence was shot with the camera speeded up to 64 frames a second, bringing slow motion to the scenes of weeping, the rushing water, and the rising hand, virtually reducing the action to suspended animation.

Thus were the bizarre mood and contrasts of the location keynoted. Large areas of different textures played an important part in the continuity of this sequence. The dark powder-like dust covering the entire screen portrayed the early sterile earth, the white movement of rushing water symbolized time's passing. These and the dark hand of life all conceived through the tear which was as a seed of creation, were made potent by sharp successions of images on the screen.

Throughout the film strong composition, low angles, and a definite atmosphere, played an important role. We soon discovered that the artist must be the one who directs the

(Continued on Page 33)



PREPARING to shoot a closeup for one of the many montages which were freely employed throughout "Out Of The Shadows." Here, as in so many of the scenes, symbolic dance steps contrast with a rugged background.

ECONOMY LIGHTING WITH PHOTOFLOODS

(Continued from Page 11)



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exteriors, (2) Plus X for night exteriors and normal interiors, and (3), the Double-X stock already cited. The role of each of these films was carefully determined in extensive pre-production tests made in Hollywood, prior to traveling to Italy. "It would have been impossible for us to get the results we did," he said, "without the use of three different films and especially if we hadn't made the tests beforehand."

"We had not the benefit of dailies or hand tests," Daniels continued. "We navigated virtually 'blind' the entire time we were in Italy. I had my fingers crossed most of the time. Still I was confident we'd come through alright, in view of prior experience in shooting 'Naked City' in New York, in which I had encountered similar problems, using the same type lighting equipment."

The RFL-2 photoflood lamps have a rated life of six hours. This poses a problem of keeping a check on the lamps to make sure they are not burned beyond this period and thus risk the chance of their blowing out in the midst of a take. Daniels established the practice while in Italy of junking all photoflood lamps at noon each day and replacing them with new ones. Thus, while the junked lamps had not been in use the full six hours, the danger of "blowouts" was eliminated and a better quality of lighting was assured by using fresh lamps.

Oddly enough, the junked lamps could

not really be junked or disposed of but had to be accounted for at the customs office at time of departure. This created the problem of transporting out of the country a lot of useless lamps that could not be disposed of until Daniels and his crew returned to America. "It was as though Italy told us we couldn't dump our trash in her back yard," said Daniels. Actually there was more to it than that. "Italy's present customs laws are pretty tough," Daniels continued. "You can bring plenty of stuff into the country but you have to pay duty on it to take it out again! The mandate that made it necessary for us to account for every photoflood lamp, burned out or otherwise, was in line with the country's regulations to curb black marketing. We were obliged to account for every burned out or discarded bulb and every foot of 'short-ends' of film, and take them out of the country with us when we left!"

Actually, of course, this imposed no difficulty on Daniels or his crew. He cited these experiences merely as side-lights on the European scene where conditions are changing rapidly. He was happy that the lighting problem, always an unknown factor in overseas shooting, had been so successfully met by use of photoflood lamps and light, portable equipment. It sets a precedent which is likely to be followed by other Hollywood producers planning productions in European countries.

Judging of Contest Films Begins

AMATEUR movie makers planning to enter films in the American Cinematographer's 1950 Amateur Motion Picture Competition, may now submit their films for entry and evaluation. Entry blanks, together with the \$1.00 entry fee, should be mailed separately and in advance of films to the Contest Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood, 28, Calif.

Please remember the limits that apply to all contest films: 16mm. films should not exceed 800 feet in length, and 8mm. films should not be over 400 feet in length. Both the film reel and its container should bear the name and address of the entrant. Films should be shipped prepaid. They will be returned to the entrant Express collect, fully insured. Safe return of films is thus assured.

The contest judges wish to reassure every entrant that his films will receive the very best of care in their hands. Only experienced operators will be in charge of the projectors and sound equipment, thus insuring not only the best presenta-

tion of films on the screen, but that films will not become damaged in any way through handling.

American Cinematographer's 1950 Amateur Motion Picture Competition, sponsored jointly by AC and the American Society of Cinematographers, affords the American cine amateur the opportunity to display his cinematographic skill before the professional cameramen of Hollywood.

The panel of judges, comprising six prominent members of the A.S.C., is well qualified to evaluate the contest films by virtue not only of vast professional experience, but because each judge is also a cine camera enthusiast in his own right and thus is conversant with the limitations, problems, etc., encountered by the amateur in producing 8mm. and 16mm. movies.

They await with considerable enthusiasm the opportunity to screen the contest films and to choose the winners of the handsome trophy that is the American Cinematographer Award, and the six Achievement Awards for cinematography.

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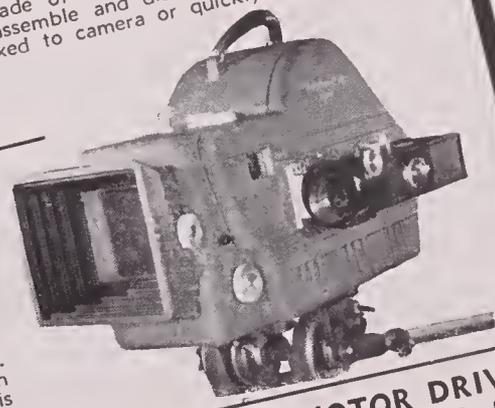
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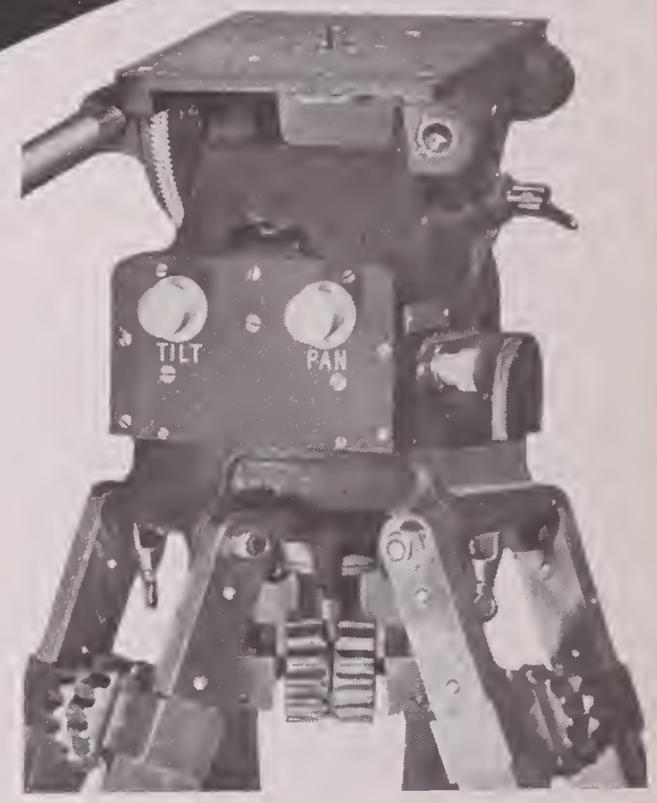
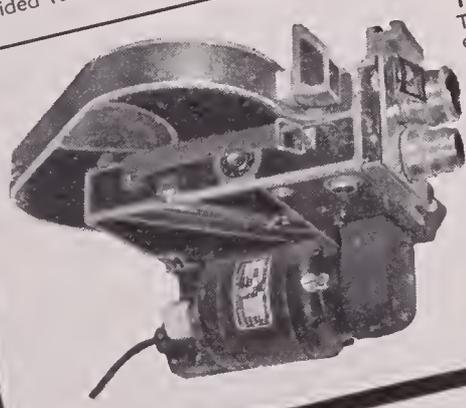
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LIGHTING FOR COLOR MOVIES

(Continued from Page 16)

Color films available to the amateur fall into three categories: Daylight (balanced for average outdoor light), Type A (balanced for photoflood light of about 3400° Kelvin), and Type B (balanced for tungsten light of about 3200° Kelvin). When used with its own type of light under ordinary conditions, each of these films theoretically records a natural quality of color rendition. However, there are several important variables which can change the color quality of the light.

For example, time of day is most important in color filming outdoors. In the early morning hours of an overcast day, there is an abundance of ultra-violet in the atmosphere which records as an exaggerated blue cast on color film. Similarly, in the late afternoon hours of an average bright day, when the sun is close to the horizon, there exists an abundance of red rays which are readily recorded, especially over flesh tones. The rule-books for amateur movie makers say that for most consistent color quality, filming should be done anywhere from two hours after sunrise to two hours before sunset—or to be on the safe side, from about 10. A.M. to 3 P.M., depending upon the season of the year. Thanks to the development of color temperature meters and color correcting filter kits, it is no longer necessary to stay within these limitations. By taking careful color temperature readings and compensating with the correct filters as the day progresses, the cameraman shooting in color can now lengthen his shooting day by as much as three or four hours.

When filming in color out-of-doors it is almost impossible to maintain a consistent light quality when separate scenes of a sequence are shot on different days, in different locales, or under varying weather conditions. The only recourse for the cameraman is careful planning and organization that will enable him to shoot all of his key scenes in the one session. This applies mainly to the long shots, especially those showing sky. If these can be shot in a group so that they are all consistent, the closer shots can be made later, since there is usually sufficient compositional change from a long shot to a close-up to camouflage any variation in light quality.

Indoor filming in color presents its own set of advantages and complications for the photographer. The main advantage is that the light can be controlled. Also, the same lighting setup can be duplicated from day to day without variation. But here again there are several points which must be considered. First,

the film should be matched to the type of lighting which is to be used. Second, great care must be taken to see that outdoor light does not mix with the interior lighting—or that should this be necessary, proper compensations be made.

It is well to remember, too, that the latitude of color filming is a good deal less than that of black and white, and it is therefore easier to under-expose or over-expose. For this reason, meter readings should be taken carefully and accurately. In a scene including people, the flesh tones will naturally reflect the most light. Therefore, the basic light reading should be made for these flesh tones and the other lights in the scene balanced accordingly.

Up until recently, manufacturers of color film as well as leading authorities on the subject, recommended flat lighting for color, since this seemed to be a fool-proof method for achieving a consistent, acceptable result. This point of view has now been somewhat altered, and the more capable color cameramen are using greater lighting ratios in order to produce a more pleasant modelling and separation for the subjects. It can safely be said that consistently good results can be achieved in color if the lighting ratio is one to two or one to three (between key light and fill light). Occasionally, for special effect, it is possible to use much greater ratios, but in such cases one must expect excessive contrast.

In color filming, colored light also can play a dramatic part. It is useful not only in creating realistic light quality for special situations (such as fire light, moonlight, sunsets, etc.), but also in the creation of certain special effects. Very often a drab subject can be greatly enlivened through the use of colored light, even though careful analysis might prove that such lighting was not strictly motivated. In such a case, artistic license permits the cameraman to use such lighting (providing it is not overdone), purely for the sake of pictorial effect.

Lighting for color is a science in itself. The fundamental principles can be learned from texts and technical articles, but the best way to achieve finesse in lighting for color movies is to try out various effects "on the set." Certain rules should be followed at first, but as in every art medium, it is sometimes possible to throw all of the rules out the window and still achieve an original and pleasing result.

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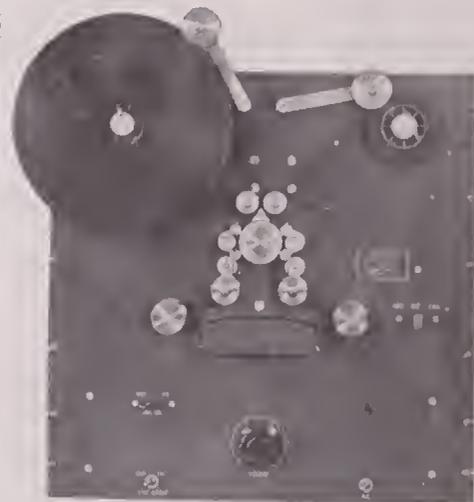
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CARBON ARC LIGHTING

(Continued from Page 11)

lamp houses by suitable acoustic material have resulted in the low noise level of today.

After these improvements had been made in spot lamps and spot lamp carbons, it was found by comparison that the light from the broad-side lamp needed some improvement. Mole-Richardson developed the familiar Duarc lamp in 1938 which included an efficient reflector and smooth, automatic carbon feed. Simultaneously with this lamp development we worked on carbons to operate most favorably with this new lamp mechanism and which would give the desired color of light. After an intensive development program, we were able to produce a trim of carbons which gives a flickerless light and could be used for colored photography without filters.

During this time, technological progress in background projection had made its use widespread. The demand for the illumination of larger screens, particularly for color, made the need for more powerful background projectors imperative. As a result of these demands and the standardization work of the Academy of Motion Picture Arts and Sciences, Mole-Richardson developed the type 250 background projection lamp. This lamp with its water-cooling, automatic control and other features made it possible to use higher currents than hitherto customary. Considerable experimental work was carried out on various carbons and the optical systems including the relay condenser system. This resulted in the development of a 16mm. carbon for operation at 225 amperes. These new carbons combined with the new lamps and optical systems, along with the development of multiple head background projectors, all served to remove a serious limitation on the use of background projection in color.

The continuing experiences of cinematographers with the available spot lamps showed the need for still more powerful ones. In response to this demand Mole-Richardson developed the type 450 "Brute" lamp. These lamps were designed to use the 16mm. carbon trim at 225 amperes. The usage of this trim in spot lamps put more severe demands on the carbons than was hitherto the case with the water-cooled rear projection lamp. The requirements were for a carbon trim that would burn quietly and steadily and have ample overload capacity. In order to obtain quiet operation from the time of striking the arc, it was necessary to develop a new negative carbon. This, along with a modification of the positive carbon has provided a satisfactory combination for these lamps.

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The result of these developments over the past decade or so is that it has given us a well rounded group of lamps and coordinated carbons which produce highly successful results. It is perhaps well for us at this stage to stop and take stock, reviewing the attributes and advantages of carbon arc light.

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predict the course of future developments in carbon arc lighting. However, we can outline the direction of some of our experiments, our thinking and experience in other fields. Of course, just how much will be applied to any given field will depend upon the needs of that field, new developments, etc.

During the past decade we have done a large amount of experimentation with water-cooling of carbons, particularly as applied to specially designed carbons. We have found with carbons of suitable composition and construction that water-cooling properly applied increases the ceiling on operating current and brightness. For example, 13.6mm. diameter carbons can be operated at as high as 300 amperes giving a crater brightness of more than 1600 candlepower per square millimeter which is equivalent to the apparent brightness of the sun. Other carbons have been operated at a brightness of over 2000 candlepower per square millimeter. Carbons presently used for studio lighting in general do not much exceed 900 candlepower per square millimeter brightness. The higher brightness of these newer carbons may find application where very intense beams must be projected.

It has been demonstrated that "flame swallows" can be used to control the positive tail flame and the products of combustion of the arc. A negative carbon in the form of a circular disc has been used abroad to obtain long burning life in small physical space. Air-blown arcs have been studied for special applications. Whereas these things may have been originally studied for application in other fields such as searchlights and motion picture projection, they are being scrutinized for studio applications.

Last year we carried out some experimental tests in Hollywood on 16mm. carbons burned at 500 amperes to produce at least twice as much light as the

present maximum of the 225 ampere 16mm. carbon used in the type 450 "Brute" spot lamp. Considerable numbers of searchlights were used in Europe during the war at very high currents, some of these ranging up to 1000 and 1200 amperes. Work was carried out here and also abroad on arcs at even higher currents for searchlights. These operated in some instances at currents as high as 4000 amperes. It is theoretically possible to generate all of the light needed for a large set with a few very powerful units. There would, of course, be problems of control and distribution of the light, getting it to the right places on the set. Perhaps we could turn back towards very early practices in motion pictures lighting where the light from the sun was used and directed into various parts of the set by means of suitably placed reflectors. There would, however be one important difference. The light source instead of being the sun with all of its uncontrollable features caused by atmospheric and astronomical variables would be carbon arc lamps generating controllable and reproducible amounts of light of constant color.

Our laboratories are continuing their work with modern and improved equipment and are finding new and better ways of fabricating new and better carbons.

The final thought I wish to leave with you is that working together we have come a long way and by working together we can go a lot further. We are dependent upon men such as you to help guide us in the direction our developments should take by pointing out to us your needs, both to carry out your day-to-day tasks and also to pioneer new procedures and techniques.

NOTE: The foregoing is text of a technical address given before members of the American Society of Cinematographers recently by Mr. Lozier, the author.

tion, therefore, in confining the subject material and significant action to a camera finder area which is somewhat smaller than that used in making films for normal projection use. Under these circumstances, all important information would then be seen on the majority of commercial receivers. Thus far, no standard has been established to specify the exact camera action field for television studio photography. One television station has reported that this camera action field should be about 8½ per cent less for the top and bottom margins and about 13 per cent less for the horizontal margins as compared with the standard camera finder area.

Subject matter should be photographed as large as possible but should not unduly crowd action and movement of the characters. The most pleasant reproduction on the receiver screen is obtained from close-ups and they should therefore be used as frequently as possible. Medium shots give just acceptable reproduction while long shots give rather poor reproduction. It is necessary, of course, to include some long shots in order to obtain the essential continuity in terms of transition, location, and dramatic telling of the story. Furthermore, the inclusion of long shots gives the psychological effect of making the observer believe that the definition is better than reality would warrant, an effect known as apparent definition.

The need for numerous close-ups is emphasized if one constantly visualizes reproduction in terms of the small viewing screen. On the average, most receivers at present are equipped with rather small screens as compared with screens commonly used for projection of home movies. The range of brightness which can be reproduced as satisfactory tone scale values is also much less than is the case for home movies. The producer should strive, therefore, to avoid the so-called "tunnel-viewing" effect and earnestly try to carry the viewer into the picture.

Sets and Properties—On the average, sets may be smaller than those used for conventional motion picture production because of the need for many close-ups and the preservation of some background detail. Fine or delicate detail in backgrounds, clothing, furniture, accessories and all properties, should be avoided. Instead, large patterns (checkerboard designs and the like) with sharp changes in contrast should be used, and of such a size that they will be definitely visible on the television receiver screen. Large, uniformly colored areas, should also be avoided, especially when they occur in the foreground of the picture. Such areas should, instead, have large-pattern design. This is necessary in order to produce

THE PRODUCTION OF FILMS FOR TELEVISION

(Continued from Page 12)

driven with synchronous or interlock motors.

At the present time, the best picture and sound quality is obtained when 35mm. film and equipment are used throughout the process. The use of 16mm. film, with its smaller dimensions, imposes more severe restrictions on equipment as well as on the film characteristics and processing requirements. Certain bottlenecks have been created in the 16mm. program, which will be discussed in a later section, which are largely responsible for the difference in the quality of results obtained.

Composition—In the series of steps employed in the reproduction of a film image on a receiver screen there is inevitably a certain amount of cropping of the picture area. Some of this occurs in making the print, some in transferring the image to the television mosaic and some at the receiver screen. In the latter case, variations in design of the mask (screen opening) for various types of receivers may result in some vignetting. Receivers which permit some adjustment in the image magnification may also cause vignetting, depending on individual tastes in monitoring. There is some justifica-

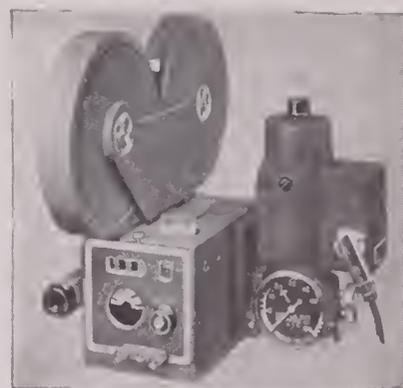
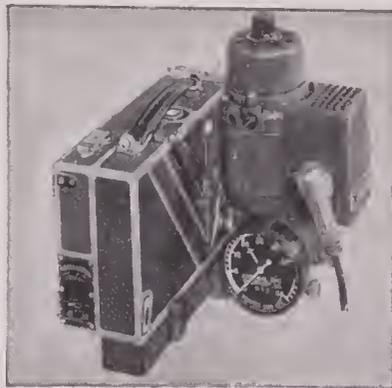
a print with large variations in density, which in turn will reduce the "horizontal smear effect" frequently observed on the television viewing screen.

General Photography—In general, camera takes employing zooming, travelling, and panning should be done at a lower rate of speed than is often customary in motion picture production. If this precaution is not observed, geometrical distortion in the receiver-tube image will occur. When it is desired to show transition of space and time, the accepted lap dissolves, quick fades, instantaneous "cuts," etc., are fully satisfactory. Long fades are undesirable since they may give the viewer a mistaken impression that the receiver is not functioning properly.

From previous remarks it is also obvious that all main and insert titles should be made with larger and bolder lettering than is normally used for motion picture titles. The backgrounds should not be of uniform tone or color but should have coarse and large pattern texture to produce varying contrast. Black backgrounds should not be used because of the excessive edge-flare effect discussed in a later paragraph. Shading of the letters, decreasing in density toward the right, is also desirable in order to reduce the horizontal smear effect. Titles should be centered and care should be exercised to see that they do not extend to the extreme edges of the frame area, since they may be partially cut off in the receiver tube image due to the vignetting discussed previously.

Subject Lighting—The most notable departure from standard motion picture technique in making films for television use is that relating to the subject lighting contrast which is required. The limited range of brightnesses which can be reproduced as satisfactory tone scale values in the television system imposes restrictions on the range of brightnesses which can be effectively reproduced on a receiver screen from a subject being televised. Since in the case of film telecasting, the subject is an image on film, this means that the density range must not exceed a certain value if good tone reproduction is to be obtained in both highlights and shadows.

The effective brightness range of present television systems is not more than 1 to 30 in a closed circuit, when the complete television system is functioning at its highest efficiency under the supervision of trained personnel. This is equivalent to saying that highlight details in a picture which are more than 30 times the brightness of visible shadow detail will not be seen on the receiver screen. Limited measurements indicate that average individual adjustments of commercial and home television receivers provide an effective brightness range of only 1 to 20



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or less. With the best adjustment this is not over 1 to 25 because of transmission losses. Further measurements in the future may show that these values are too conservative and should be even lower. It is also possible that the value is influenced somewhat by the type of subject matter.

Let us compare this brightness range with that obtained on a Class A motion picture theater screen. A modern theater projection system in good operating condition, equipped with a surface-treated lens and providing a screen brightness of about 10 foot-lamberts, gives a screen brightness range of 1 to 40. This is double the range of the average television receiver, accounting for both a greater apparent image definition and a much greater range in tone reproduction. This means that more delicate highlight tones and greater shadow detail are distinguishable on the motion picture screen than on the television screen.

The television screen in the home may also be illuminated at night by room lights or by day by stray light from windows. Such general screen illumination still further reduces the brightness range as compared to the theater where ambient light is strictly controlled and minimized.

This difference also means that a motion picture print which is to be televised should have a lower density range than one which is intended for normal projection use. In fact, since the brightness range for the motion picture screen and that for the television screen differ by a factor of 2, this indicates that the density range of the print for television use should be lower by an amount equal to the logarithm of 2, or 0.3. Thus a print from a certain negative of 2.00, should have a density range of only 1.70 or less, in case the print is intended for television use. The exact density range will vary somewhat, of course, depending on the nature of the particular subject or scene.

(To Be Continued Next Month)

NEW 16MM. SOUND TRACK

(Continued from Page 14)

greater number of sections. This involved certain disadvantages, notably a reduction in the amount of noise reduction that could be employed with good results.

The new multiple track may well exert a considerable influence in the industry, particularly in respect to the use of 16mm. for television release. In some cases, the decision to incur the additional costs of 35mm. production may have been based on an unfortunate comparison between the results given by 16mm. versus 35mm. projectors. This new aid to

the improvement of 16mm. sound quality will be a strong influence in the decision to use the less expensive medium. Most television projectors, being rather slightly modified standard 16mm. equipment, will obtain the full effect of the improvement. Certainly the telecasting of more uniform high quality in 16mm. prints will be welcomed by viewers and thus make the filmed material more acceptable to stations and sponsors alike.

The Maurer company has announced that the new multiple sound track will be made available as a conversion to present owners of the latest type Maurer recording systems and that very soon, all new Maurer recorders will be equipped to provide the improved multiple sound track as standard equipment.

COLOR TEMPERATURE

(Continued from Page 13)

3000°K. But that same accuracy would be plus or minus 5000°K at 20,000°K. Incidentally, it may be that those producers of color temp. meters who casually give an accuracy rating of say plus or minus 25°K for their meter, without specifying the color temp. level, do not completely understand the subject with which they are attempting to deal.

In any event, the above weakness in the Kelvin scale is caused by the fact that it is not a uniform scale. The divisions are crowded together at one end of the scale and widely separated at the other end. This weakness has been recognized by scientists. As a result a better type of scale was set forth by I. G. Priest (a U.S. Bureau of Standards man) in about 1933. That scale was divided into Mireds (micro-reciprocal-degrees).

A Mired scale is shown in Fig. 1. Relative corresponding values on the Kelvin and Mired scales may be noted on the chart. For example, 10 Mireds correspond to 100,000°K, and 400 Mireds correspond to 2500°K, etc. The chart also shows the Mired values for various types of light sources.

Several advantages appear to be inherent in the Mired scale. For one thing it deals with relatively small figures. These are easy to read on a meter scale, easy to write, and easy to remember. The scale is a uniform scale. Divisions are equally spaced. Hence a given color difference will always be designated by the same number of Mireds, wherever it lies along the scale. A light blue filter of say 25 Mireds value will always have a 25 Mireds value whether it is used at a level of 100 Mireds or a level of 400 Mireds. This feature makes the Mired scale of considerable value in color photography, where filters are used for color temperature correction.

Color temperature filters can be di-

rectly designated in terms of Mireds. They will then fulfill a definite and easily understood function in regard to changing the color temperature. A given filter will always change the color temperature of the illumination by a fixed number of Mireds. For example, if the color temperature of the illumination is 195 Mireds, and the color film in the camera is balanced for 170 Mireds, it is only necessary to use a 25 Mired blue filter to cause the proper change in the illumination color.

A color photographer who wishes to make use of color temperature filters will probably find that a first class color temperature meter is of considerable value. The meter may be used to measure the color temperature of the illumination. Then an appropriate C-T (color-temperature) filter may be selected for use.

I have recently developed a C-T meter which seems ideal for all photographic purposes. (See Fig. 2.) The meter has a number of desirable features. Among them is a provision for instantly interchangeable scale plates. The scale plate fits around the periphery of the meter, as may be noted in the illustration. For some purposes a photographer may prefer to use a Kelvin scale, as shown in Fig. 1. For other purposes he may desire to use a Mired scale, also shown in Fig. 1. Either are instantly available with this meter.

I have found that a third type of scale can be very useful for color photography. This type of scale is a color temperature filter scale. An example is shown at the right in Fig. 1. The scale is made up to be used with a particular type of color film, such as daylight film, or photo-flood type film, or tungsten projection lamp type film.

A C-T filter scale to match the type of film in the camera may be snapped into place on the meter. The meter may then be used to evaluate the prevailing illumination. The answer will be given by a direct indication of the filter necessary to balance the light which reaches the film.

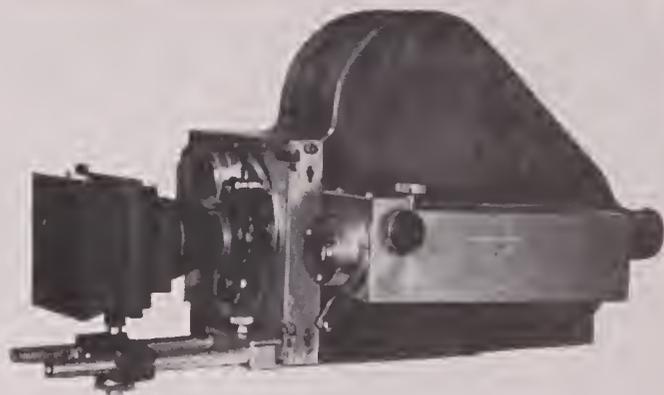
Should the prevailing light be naturally correct for the film, the meter index will indicate 0—the ideal light condition in which no filter is needed. Should the light be unbalanced and somewhat strong in the blue, the index may indicate one of the R (for red) filters. The filters noted on the scale are 25R, for red by 25 Mireds; 65R, for red by 65 Mireds; and 125R, for red by 125 Mireds.

Conversely, should the illumination be unbalanced, and strong in the red, the meter would indicate one of the blue filters such as 25B or 65B or 125B.

A set of six C-T filters, as shown on the scale plate, will go a long way toward giving a photographer appropriate

(Continued on Page 33)

The NORD



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THE WRAPS ARE OFF! A new professional 16mm. camera with radically new features important to every commercial, educational and television film producer. The NORD insures top photographic results under most adverse filming conditions. The result of five years of careful research and development, this camera has all the desirable features you require including:

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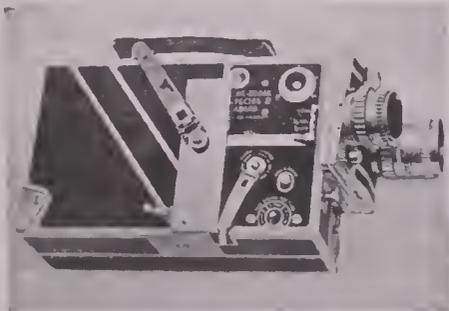


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Current Assignments of A.S.C. Members



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

Columbia

- JOSEPH BIROC, "The Killer That Stalked New York," with Evelyn Keyes, Charles Korvin, William Bishop, Lola Albright and Barry Kelley. Earl McEvoy, director.
- PHILLIP TANNURA, "Custom's Agent," with William Eythe and Marjorie Reynolds. Seymour Friedman, director.
- IRA MORGAN, "State Penitentiary," with Warner Baxter and Karin Booth. Lew Landers, director.
- BURNETT GUFFEY, "No Way Out," with Glenn Ford, Broderick Crawford and Carl Banton Reid. Henry Levin, director.

Eagle-Lion

- LIONEL LINDON, "Destination Moon," (George Pal Prod.) with Warner Anderson, John Archer, Erin O'Brien Moore and Tom Powers. Irving Pichel, director.

Independent

- HAL MOHR, "Here Lies Love," (Briskin-Smith Prod.) with Robert Young, Betsy Drake, John Sutton and Jean Rogers. James V. Kern, director.
- JACKSON J. ROSE, "Destination Murder," (Prominent Pictures) with Joyce MacKenzie, Stanley Clements, Hurd Hatfield, Albert Dekker and Myrna Dell. Edward L. Cahn, director.

Lippert

- BENJAMIN KLINE, "Everybody's Dancin'," with Spade Cooley, Richard Lane and Ginny Jackson. Will Jason, director.

M-G-M

- JOSEPH RUTTENBERG, "The Miniver Sequel (In Color—shooting in England), with Greer Garson, Walter Pidgeon, John Hodiak and Cathy O'Donnell. Henry Potter, director.
- ROBERT SURTEES, "King Solomon's Mines," (Technicolor) (Shooting in Belgian Congo) with Deborah Kerr, Stuart Granger and Richard Carlson. Compton Bennet, director.
- CHARLES SCHOENBAUM, "Duchess Of Idaho," (Technicolor) with Esther Williams, Van Johnson, John Lund and Paula Raymond. Robert Leonard, director.
- CHARLES ROSHER, "Annie Get Your Gun," (Technicolor) with Betty Hutton, Howard Keel, Louis Calhern, J. Carrol Naish, Edward Arnold, Keenan Wynn and Benay Venuta. George Sidney, director.
- HAROLD ROSSEN, "Asphalt Jungle," with Sterling Hayden, Jean Hagen and James Mitchell. John Huston, director.
- JOHN ALTON, "Mystery Street," with Ricardo Montalban, Sally Forrest, Bruce Bennett and Marshall Thompson. John Sturges, director.
- HAROLD LIPSTEIN, "The Skipper Surprised His Wife," with Robert Walker, Joan Leslie, Edward Arnold, Spring Byington and Leon Ames. Elliott Nugent, director.
- ROBERT PLANCK, "Summer Stock," (Technicolor) with Judy Garland, Gene Kelly, Gloria DeHaven, Phil Silvers and Eddie Bracken. Charles Walters, director.

- HARRY JACKSON, "Three Little Words," (Technicolor) with Fred Astair, Red Skelton, Vera Ellen, Arlene Dahl, and Keenan Wynn. Richard Thorpe, director.

- WILLIAM SKALL, "Kim," (Technicolor—Shooting in India) with Errol Flynn, Dean Stockwell and Paul Lukas. Victor Saville, director.

Monogram

- MARCEL LEPICARD, "Blonde Dynamite," with Leo Gorcey, Huntz Hall, Adele Jergens, Bernard Gorcey and Harry Lewis. William Beaudine, director.

Paramount

- WILLIAM MELLOR, "A Place In The Sun," with Elizabeth Taylor, Montgomery Clift and Shelly Winters. George Stevens, director.
- GEORGE BARNES, "Mr. Music," with Bing Crosby, Charles Coburn, Ruth Hussey and Nancy Olson. Richard Hady, director.
- CHARLES LANG, "September," (Hal Wallis Prod.) with Joan Fontaine, Joseph Cotten, Francoise Rosay and Robt. Arthur. William Dieterle, director.
- VICTOR MILNER, "The Furies," (Hal Wallis Prod.) with Barbara Stanwyck, Wendell Corey, Walter Huston. Anthony Mann, director.

R.K.O.

- LEO TOVER, "Blind Spot," (Skirball-Manning Prod.) with Claudette Colbert, Robert Ryan and Jane Cowl. Mel Ferrer, director.
- HARRY STRADLING, "Edge Of Doom," (Goldwyn Prod.) with Dana Andrews, Farley Granger, Joan Evans. Mark Robson, director.
- WINTON HOCH, "Jet Pilot," (Technicolor) with John Wayne and Janet Leigh. Josef Von Sternberg, director.
- HARRY WILD, "Sons Of The Musketeers," with Cornel Wilde, Maureen O'Hara, Alan Hale, Jr. Lewis Allen, director.

20th Century-Fox

- LEON SHAMROY, "Cheaper By The Dozen," (Technicolor) with Jeanne Crain, Clifton Webb, Myrna Loy, Betty Lynn. Sara Allgood. Walter Lang, director.
- MILTON KRASNER, "No Way Out," with Richard Widmark, Linda Darnell, Stephen McNally and Fred O'Neal. Joseph Mankiewicz, director.
- ARTHUR ARLING, "My Blue Heaven," with Dan Dailey, Betty Grable and David Wayne. Henry Koster, director.
- JOE MACDONALD, "Outbreak," with Richard Widmark, Paul Douglas, and Barbara Bel Geddes. Elia Kazan, director.

United Artists

- STANLEY CORTEZ, "Once Over Lightly," (Roxbury Prod.) with Edmond O'Brien, Wanda Hendrix, Rudy Valee and Steve Brody. Albert Rogell, director.

Universal-International

- MAURY GERTZMAN, "Death On A Side

Street," with James Mason, Marta Toren and Dan Duryea. Hugo Fregonese, director.

Warner Brothers

• TED McCORD, "The Victim," with Joan Crawford, David Brian and Steve Cochrane. Vincent Sherman, director.

• ERNEST HALLER, "The Hawk And The Arrow," with Burt Lancaster, Virginia Mayo and Frank Allenby. Tourneur, director.

• ROBERT BURKS, "The Glass Menagerie," with Gertrude Lawrence, Jane Wyman, Kirk Douglas, Arthur Kennedy. Irving Rapper, director.

• CARL GUTHRIE, "Storm Center," with Ginger Rogers, Ronald Reagan and Doris Day. Stuart Heisler, director.

• WILFRID KLINE, "Colt .45," (Technicolor) with Randolph Scott and Zachary Scott. Edward Marin, director.

• KARL FREUND, "Bright Leaf," with Gary Cooper, Jack Carson, Lauren Bacall, Patricia Neal, Donald Crisp, Elizabeth Patterson and Jeff Corey. Michael Curtiz, director.

• PEVERELL MARLEY, "Pretty Baby," with Dennis Morgan, Zachary Scott, Betsy Drake and Edmund Gwenn. Bretaigne Windust, director.

Winterizing Cine Cameras

EASTMAN Kodak Company brings much valuable information for the cine cameraist in a new booklet off the press this month titled "Wintertime Picture Making," available at your camera store for 25 cents.

"If you are going to be taking pictures at sub-zero temperatures for a number of months, and know that you will not be using your camera indoors during this period, you should consider having your camera winterized," the booklet points out. "When you winterize your car, you remove the summer oils and greases and put in some which will flow readily at low temperatures.

"In winterizing your camera, about the same is done except that, for very low temperatures, no lubricant is put in at all. Winterizing a camera requires complete dismantling and overhauling and is, therefore, a rather expensive service. However, some camera manufacturers will do this job for you if you find it is really necessary. You should bear in mind, however, that you cannot take pictures indoors or in warm weather with a winterized camera without damaging it and that you must, therefore, have the camera overhauled again and de-winterized before you use it to take pictures at normal temperatures."

The booklet cautions camera owners that under no circumstances should they try to oil their camera if it sticks in cold weather. Even one drop of oil or solvent working its way through the mechanism of the camera may cause the camera to stop altogether.

The booklet further explains how you can find out if your camera will operate satisfactorily in sub-zero weather by pre-testing it in a frozen-food locker.



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Cine-Voice Agents

S.O.S. Cinema Supply Corp., 602 W. 52nd St., N.Y., has been appointed one of the Eastern distributors for the new Auricon Cine-Voice 16mm. single system sound camera designed for amateur movie makers.



Patterned after the famous Auricon Pro camera, the mechanism is enclosed in a light, cast aluminum housing lined with sponge rubber, permitting making closeups at 3 feet without blimping camera. S.O.S. now has Cine-Pro cameras in stock for immediate delivery, according to J. A. Tanney, pres.

Film On Volcano

Ralph E. Gray, who made the only complete 16mm. Kodachrome record of the birth and growth of the Mexican volcano, Paricutin, is now offering a specially edited version running 16 minutes on the screen. For price and complete description, write Mr. Gray at Postal Apto. 2747, Mexico City, Mexico.

New DeJur 8mm. Camera

DeJur-Amsco Corp., 45-01 Northern Blvd., Long Island City, N.Y., announces the latest addition to its line of 8mm. cine cameras—



the Embassy—embodying such features as 6 speeds, including slow motion, magazine loading, 10-foot run on one winding and interchangeability of lenses. List price with f/2.5 lens is \$99.50.

Diffusion Filters

Edward Garvin, 5028 Greenbush Ave., Sherman Oaks, Calif., offers specialized service in developing and manufacturing diffusion and special effects filters for studio camera departments and the individual cinematographers.

Kodak Book on TV Films

A new booklet describing the technique of most efficiently utilizing motion picture films in television is offered free by Eastman Kodak Company.

The publication is intended primarily for photographers and those concerned with the technical production aspects of lighting and filming sets for television films. It contains helpful charts and photographic illustrations and covers such topics as camera equipment, picture composition, sets and properties, effects and titles, etc. Titled "The Use Of Motion Picture Films In Television," copies may be obtained free by writing Motion Picture Film Dept., Eastman Kodak Co., Rochester.

Pollock Slide Viewer

Pollock Prods. Co., South Laguna, California, headed by Gordon Pollock, A.S.C., offers a novel viewer for 2 by 2 slides which features a radical new optical system that as-



sure higher magnification and greater brilliance of the viewed slide image. Illumination source is a 7 watt bulb, using ordinary 110 volt current. A battery operated model is also available. List price is \$19.95.

Optical Printing Service

Cinema Research Corp., 7000 Romaine, Hollywood, offers to American and Foreign film producers a wide range of services including dissolves, wipes, titles, animation, zooms, montages, matte shots, 16 to 35mm. blowups, 35 to 16mm. reductions, and 35mm. and 16mm. masters. Expertly staffed and boasting the finest equipment available, company regularly services independent film producers in both the 35mm. and 16mm. fields.

C-C Filter Announced

A new color correction filter, recommended for use in outdoor color photography when
(Continued on Next Page)

atmospheric conditions are unduly bluish, is announced by Eastman Kodak Company. The filter, known as the Kodak Skylight Filter, will be available in Series IV, V, VI, VII, and VIII Kodak Combination Lens Attachment Sizes as well as in 2-inch and 3-inch gelatin film squares. Use of filters will improve such shots as scenics where haze is present, beach and snow scenes and scenes in open shade lit by bluish sky light.

AN EXPERIMENT IN FILM TECHNIQUE

(Continued from Page 19)

camera. The camera—this was *our* main actor. And through the camera's eye we were brought out of the shadows, and it was "Out Of The Shadows" that became the title of our film theme.

As our film progressed and a climax approached, the tempo was increased in part by rushing the movement through cutting, and in part by incorporating swift montages made striking by the action of the dancers moving through the frame. It was the *camera* that enhanced nature. It was the *dancers* and the *location* that imitated it. Together, when all were in perfect union, we felt that we were approaching the theme and idea we had first intended to explore. Here was the summit of our Matterhorn, the center of our Africa. For here was what we had come for.

COLOR TEMPERATURE

(Continued from Page 29)

color temperature correction for most conditions.

In my work with color I have found that the direct filter type of scale, as shown at the right in Fig. 1, is by far the most useful. It is easy to use. The indications are significant and direct. Since the scale plates are easily interchangeable it is not necessary to crowd numerous confusing scales onto one scale plate. One clear, simple, easily read scale is selected and attached to the meter. This tends to prevent errors in reading.

The nomenclature for the C-T filters on the meter scale has a directly applicable significance for a color photographer. The readings mean that the color balance of the illumination is lacking in correct balance by a given number of Mireds (either red or blue). If a C-T filter, of the indicated color and number of Mireds, is attached to the camera lens the result will be correct illumination color balance for the film.

The use of this type of scale allows the photographer to make the necessary C-T corrections without diverting too much of his attention from other phases of his work, which seem to always contain plenty of other problems.

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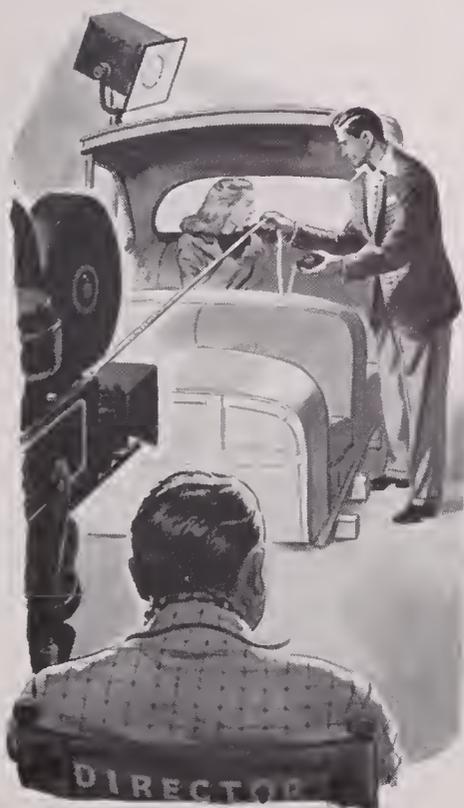
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ON THE COVER

LIONEL "CURLY" LINDON, A.S.C., lines up a shot on the "moon" set for "Destination Moon," George Pal production filmed at General Service Studio. One of the most exacting and realistic sets ever built in Hollywood, it afforded director of photography Lindon opportunity to express his cinematic individuality. The story of this interesting filming assignment begins on page 46 of this issue.—*Photo by Madison Lacey.*

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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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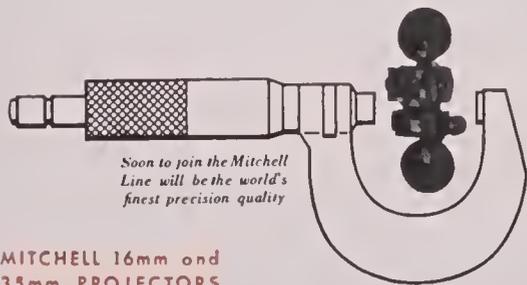
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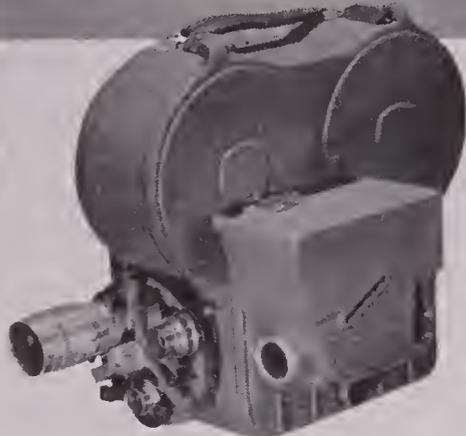
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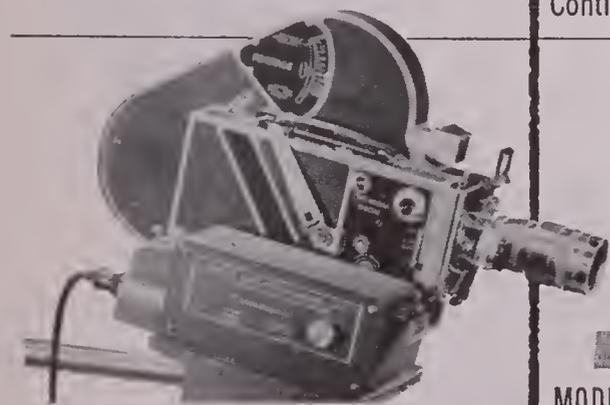
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HOLLYWOOD BULLETIN BOARD

JACK CARDIFF, A.S.C., after a hectic two years shooting in Europe, is resting at Montana Hall, Montana, Switzerland. Cardiff's busy two years embraced the filming of "Scott of the Antarctic," "Under Capricorn," and his most recent assignment, "Black Rose," starring Tyrone Power.

WILLIAM SNYDER, A.S.C., has left his home lot, Columbia Pictures, temporarily to direct the photography of "The Toast Of New Orleans," at M-G-M. Snyder is a nominee for a photographic "Oscar" this year for his filming of "Jolson Sings Again."

SOL POLITO, A.S.C., victim of a freak auto accident early last month, is expected to leave St. Vincent's Hospital, Los Angeles, about February 5th.

HARRY JACKSON, A.S.C., whose long list of cinematographic credits at 20th Century-Fox has culminated in a nomination for an Academy Award for the photography of "Oh, You Beautiful Doll!" has moved over to M-G-M to film the Technicolor production, "Three Little Words," starring Fred Astaire, Vera Ellen and Red Skelton.

A.S.C. MEMBERS were given a preview of the new, recently-announced Eastman Kodak neg-pos color film, when a demonstrator reel was screened at the last meeting of the Society in Hollywood. Emery Huse, A.S.C., who made a brief talk preceding the screening, advised that the film was merely a sort of progress report, and that the product would not be commercially available for probably a year. The reel comprised scenes photographed by cameramen at 20th Century-Fox, Cinecolor, and Columbia Pictures, and while there was detectable differences in the colors of each group shots, the new color system as a whole carries much promise, both for color rendition and the fact that the studios will be able to process it and make their own release prints.

METRO-GOLDWYN-MAYER last month announced it had completed a series of exhaustive tests on the use of Ansco Color for its productions, and would proceed with its use in a number of that studio's short subjects scheduled for 1950. According to John Arnold, A.S.C., M-G-M camera department head, initial subject will be a musical short directed by Jack Donohue.

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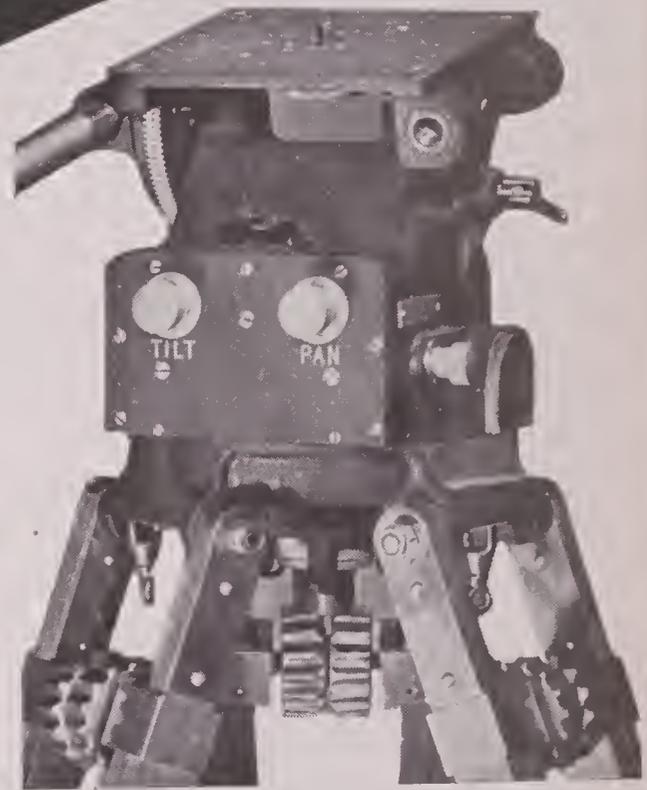
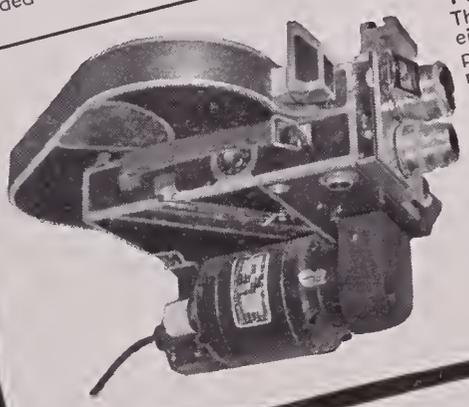


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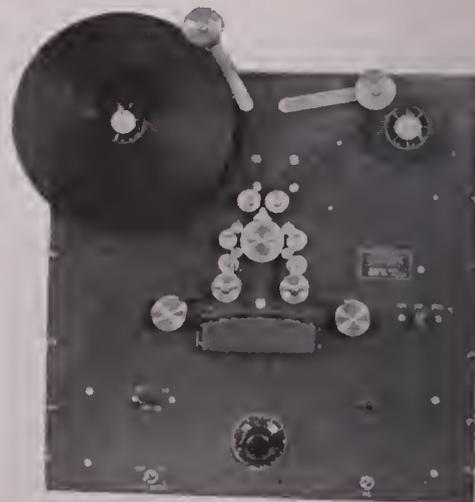
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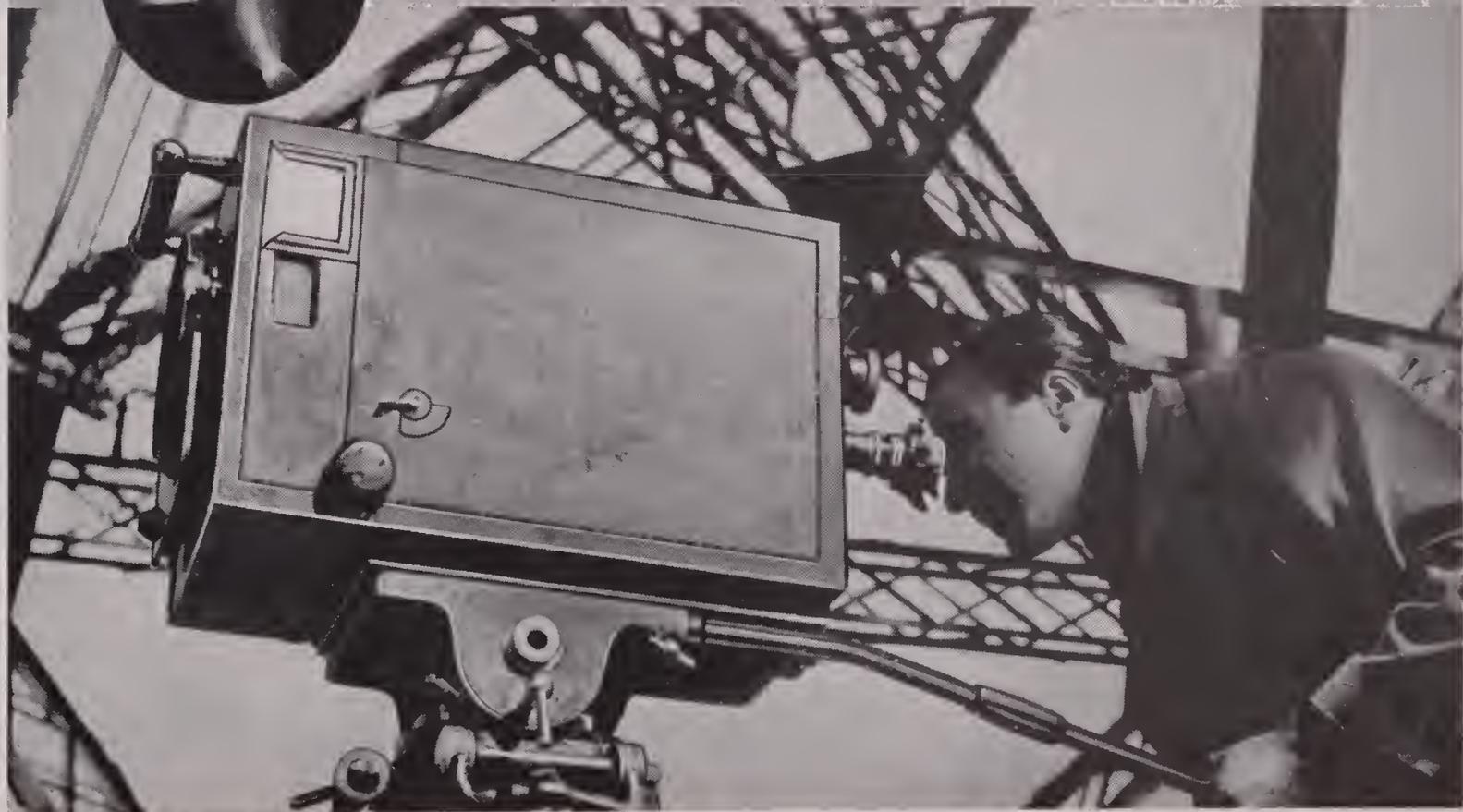
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TRICK SHOT—Lionel Lindon, sitting behind Technicolor camera mounted in special rotatable camera base, films rescue flight of scientist who zooms through space on oxygen tank, sitting on extension of camera boom. White dots are "stars"—tiny auto headlight lamps.

Filming A Trip To The Moon

Novel photographic and lighting innovations employed in filming "Destination Moon," saga of scientists who rocket to the satellite and back—in Technicolor.

By LEIGH ALLEN

MOST ANY DAY now we can expect the world-shaking report that man has successfully traveled to the moon. And although the feat will have been accomplished through the magic of motion pictures, most of us who have kept abreast of world scientific developments are aware that preparations for just such an exploit have quietly been going on for some time, and that travel to the moon by rocket ship is freely considered likely to take place during this generation.

Seizing upon this timely and most intriguing idea, George Pal has deserted his ventures in animation temporarily to produce "Destination Moon," a color motion picture which concerns the adventures of four scientists who travel by space ship to the moon, explore its surface, and return safely to earth again.

Pal's picture is no hastily contrived saga from the pen of an imaginative writer running rampant. The entire story, from main title to final fadeout, is based on scientific facts and their probable consequences. And because of this, the production became one of the most intriguing assignments ever handed a Director of Photography. This important responsibility fell to Lionel "Curly" Lindon, A.S.C., who is credited with a top-drawer job of Technicolor photography. What Lindon's camera tricks did to enhance the realism of Ernest Fegte's art direction and to the highly imaginative locale contrived by author-scientist Robert Heinlein, who wrote the script, remains for the reader to observe for himself when "Destination Moon" is released next August.

Except for the sequence depicting the takeoff of the ship from a point in a Southwestern desert, Lindon filmed all of the picture indoors on the sound stages of General Service Studio in Hollywood. There, occupying the entire floor of Stage

(Continued on Page 58)



HIGH UP in sound stage rafters, Lindon makes shot of scientist on moon's surface, as seen from porthole of space ship.



SPACE SHIP interior was built so it could be rotated or turned on side for trick shots of men walking on sides, ceiling, etc.



NO, this cut isn't wrong! It's one of the trick shots showing moon traveler with magnetized shoes walking down wall of rocket—photographed with camera turned on side.



TYPICAL studio set for a TV film in which large un'form'y toned areas have been broken up by a pattern design, in order to reduce the "horizontal smear" effect frequently seen in the receiver image.



STUDIO set showing large pattern design and simple properties—a type of set which reproduces well with present television systems and which is preferred for photography of films for television.

Producing Films For Television

Continuation of the Eastman Kodak Company report on lighting, film densities and types of film recommended for the photography of motion pictures for television.

LAST MONTH we stated that a motion picture print that is to be televised should have a lower density range than one which is intended for normal projection use. The exact density will vary somewhat, of course, depending on the nature of the particular subject or scene.

The question which immediately arises is what method to use in order to obtain the desired density compression in the positive print. Upon first examination it might appear that this might be accomplished equally well in at least three different ways:

(1) In exposing the original negative, use a subject lighting contrast which is considerably lower than that which is normally used for conventional black and white motion picture photography, and process both the negative and print in the normal way.

(2) Use normal lighting contrast and exposure but alter the processing conditions of negative or positive or both, to obtain an overall reproduction gamma which is lower than normal.

(3) Use normal lighting contrast and

The foregoing is condensed from "The Use Of Motion Picture Films In Television," by Eastman Kodak Company. Part 1 appeared in the January issue.—EDITOR.

exposure, process the negative and positive in the usual manner, but make the print 2 or 3 or more printer steps lighter than what would be desirable if the print were to be used for normal projection purposes.

Experience has indicated that Method (1) is by far the best way to obtain the desired density compression for several reasons. First of all, this method involves no departures from standard practice in the processing laboratory operations. Secondly, the amount of density range compression provided by Methods (2) and (3) or both is not sufficient in many cases to bring the density range of the final print within the limits demanded by the television system. It is important to recognize too, that lowering of the negative and positive gamma value and manipulation of the print exposure does not result in the same tone reproduction characteristics as would be obtained with alteration of the lighting contrast given in Method 1. Finally, if Method (1) is used, some additional compression of the density range of the final positive may still be effected, by making lighter than normal prints, if this need arises, such as, for example, where the subject or scene was of a very contrasty nature.

Where it is not possible to control the lighting contrast in making the original negative, then Methods (2) and (3) might be used as a last resort. This would apply particularly in the case of motion picture production negatives that have already been released but are now being used for television broadcast purposes. On the basis of present evidence, however, such a procedure would mean a definite compromise in quality.

From the above discussion, it is evident that there is a definite limit to the maximum density in the positive print, above which, details in the shadow regions of the picture will not be seen on the receiver screen, because of the brightness range limitations of the television system. There is another reason for limiting the maximum density in the positive print. At the present time, the iconoscope camera tube is almost universally used for film telecasting. In the electronic scanning process employed with this tube, the secondary emission of electrons from the mosaic screen and the inability of the positive collector to collect all of these negative charges, results in an edge-flare effect when the density rises above a certain value or when rapid changes in den-

(Continued on Page 60)



NO SOFT GROUND here for tripod legs, so Vincent Farrar's camera crew holds tripod on rocky mountain-top to keep it from slipping while the camera rolls on a scene for Columbia Pictures' "The Palomino," studio's initial outdoor drama in Technicolor Monopack.



ENDLESS rocky terrain made impractical the use of large Technicolor cameras, so "The Palomino" was shot in Monopack with a regular Mitchell.



TWO PLAYERS frame view of green valley in distant background—compositional element which led to selection of this site for the picture.

Tough Assignment

Locale, terrain and tricky colors combined to make photography of "The Palomino," Columbia's first outdoor drama in Monopack, a challenging undertaking.

By VINCENT FARRAR, A.S.C.

WHEN PRODUCER Robert Cohn elected to shoot Columbia Pictures' Technicolor production, "The Palomino," in a remote and nearly-inaccessible locale in the mountains north of Hollywood, he also set for me and my camera crew one of the most challenging of photographic assignments. Probably few Technicolor pictures produced to date involved the risks to personnel and equipment that we encountered.

Although it is customary for Hollywood to get tried and true location areas for its westerns and outdoor dramas, Cohn decided to find a virgin spot for this unusual story, which involves a valuable Palomino horse that has been stolen and hidden away in a mountain fastness overlooking a beautiful valley.

Because of the wonderful color of the golden Palomino horses used in the picture, Cohn, from the beginning, wanted a perfect natural setting as a framework for the horses' activities. So, long before

the picture went into production, an extensive search was launched for such a location. The script called for rugged, mountainous terrain overlooking a valley with bright green patches. But the time of year wasn't favorable for the fresh, green grass needed for the color cameras and for awhile the search seemed hopeless.

Location scouts scoured the Southern California countryside for several hundred miles around, but none of the spots suggested seemed to meet script specifications. And then, Jerome Courtland—star of the picture—remembered something. He recalled a certain area in the Santa Susana mountain range, 25 miles from Hollywood, where he had hunted and fished during a recent vacation. And he painted such a vivid picture of its natural beauty that Producer Cohn hustled him, Director Ray Nazarro and myself into his car and made a beeline

(Continued on Page 62)



RUBBER shoes and piano wire shackles safeguarded prize Palomino performing on rocky ledge as cameraman, suspended from cliff, made the shot.



TO FILM running inserts of stampeding horses, etc., studio built a 1500 foot strip of road on the mountain top.



YESTERDAY — Whenever Disney's Studio filmed on location, this old-time motor-generator set produced enough power to light a fair sized scene, or part of it, as this picture proves. Then, as now, special provision had to be made for generating D-C, necessary for arc lights.



TODAY — This compact Westinghouse motor-generator set packs a punch—600 kilowatts worth. Disney Studio engineers designed it with an eye to safety and efficiency. So perfectly insulated is the housing that generator may be operated close to scene of shooting with safety.

WHEN a Walt Disney production unit goes shooting on location, supplying direct current for lighting equipment is a brand new mobile motor generator—product of Walt Disney Productions' Engineering Department. The 300 kilowatt motor generator set and control unit were built by Westinghouse from a full-scale mockup constructed by Disney technicians.

The motor generator has been in actual operation at Disney's Studio for some time, and also has been rented to other studios for location work. It has been entered in the appropriate category for a Technical Award by the Academy of Motion Picture Arts And Sciences for 1949.

Basically, the Disney design is said to improve previously existing apparatus in this field in mobility, flexibility, safety, sound-proofing, equipment protection,

Disney Engineers Unveil New Mobile Generator Unit

Operating safety and efficiency keynote design.

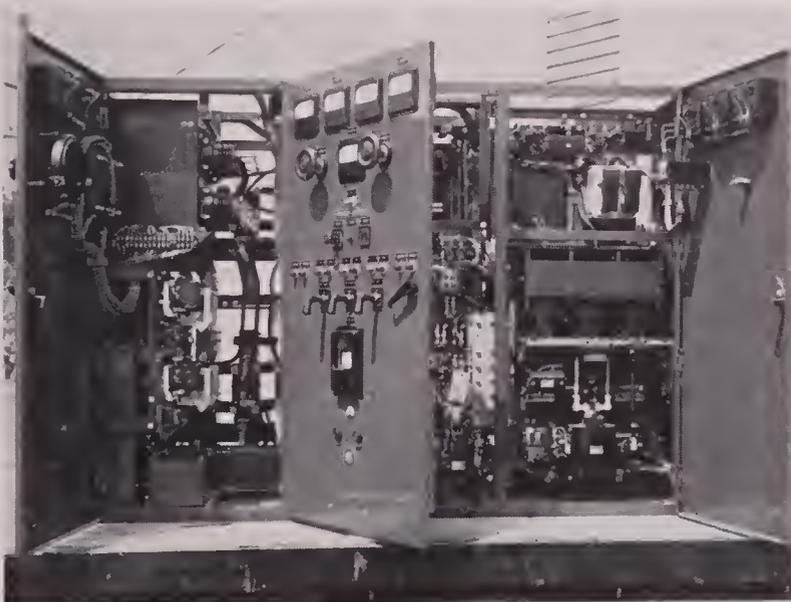
By RALPH LAWTON

simplified operation, compactness and appearance.

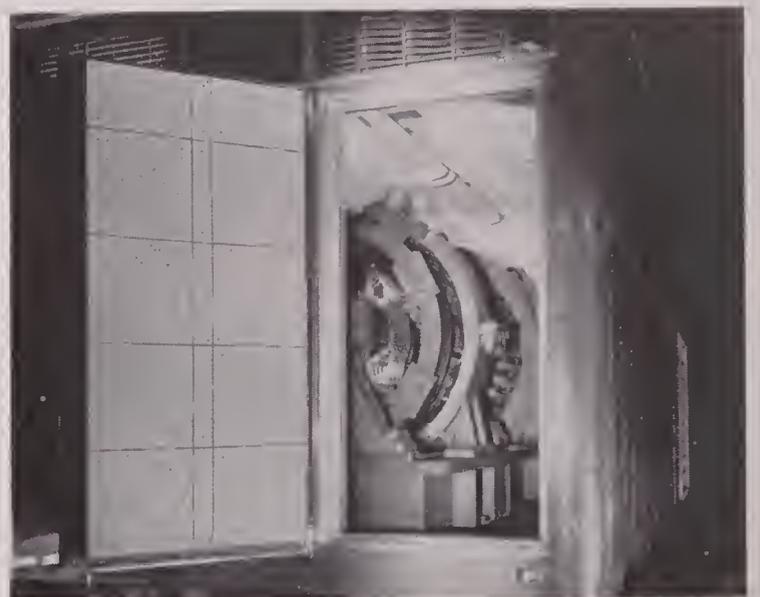
The trailer and transport unit are rugged enough to go anywhere on location where A-C power is available for transformation to D-C. The generator unit will deliver 300,000 watts—enough to produce 5,000 amperes for direct

current lighting for short periods. The trailer containing the equipment weighs 48,500 pounds, is encased in an all-aluminum body, and complies with all the recently increased State of California regulations for this kind of apparatus. Improved safety factors keynoted the

(Continued on Page 66)



THIS OPEN VIEW of interior of mobile generator reveals compactness of equipment. Apparatus was specially designed to withstand road shocks encountered in remote location areas.



CAREFULLY engineered insulation of the motor-generator compartment is shown here, as also are the rubber insulation blocks on which the generator is mounted. Trailer weighs 48,500 pounds.



CHARLES ROSHER, A.S.C., used the first Mitchell camera to go into action in a Hollywood studio many years ago when he was Mary Pickford's favorite cameraman.



WHEN ARTHUR MILLER, A.S.C., received his first Academy Award, it crowned a long list of photographic achievements that began when, as a youth, he made and sold snapshots.



JOSEPH RUTTENBERG, A.S.C., got his basic training as a newspaper photographer and newsreel cameraman. He's now Greer Garson's favorite director of photography.



From Still Photography To Cinematography

How early training in photography opened the gate of opportunity to Hollywood for these A.S.C. cameramen.

By FREDERICK FOSTER

OUR PREVIOUS historical accounts of the rise to success of some of Hollywood's foremost Directors of Photography has dealt mostly with those men who got into the business more or less accidentally, when movies were in their infancy. Some had little or no experience in photography. Whether these men were destined to become cinematographers is a matter of conjecture; but they had the artistic gift and the imaginative mind so necessary for success in the photographic art that it is reasonable to conclude such gifts would eventually find expression through the medium of a motion picture camera.

There are some, among the industry's top flight cinematographers, however, who did come into the business from the ranks of photographers—portraitists, press photographers, and the like—and their very thorough early schooling in the fundamentals of photography and of lighting, composition, etc., proved an asset which was to give them considerable edge over many of their contemporaries, in the early days of the motion picture industry.

Charles Rosher, A.S.C., who, during 1949, directed the photography on such M.G.M. productions as "Neptune's Daughter," "The Red Danube," and "Annie Get Your Gun," is one of these old master painters-with-light who was a renowned portrait photographer before taking up cinematography.

During his early youth, Rosher studied for the British diplomatic service, and clerked part time in the Consular department of the British Board of Trade. It was during this period that he took up amateur photography, and within a few years was exhibiting his work in British photographic salons, including those of the Royal Photographic Society. Besides taking many salon awards, his work was published in British photographic magazines. Subsequently he apprenticed himself to David Blount, famed British portrait photographer and founder of "The Linked Ring," exclusive photographic society in London. He studied fundamentals of photographic chemistry under Howard Farmer, a photographic pioneer and discoverer of many important photo chemical formulas. Later, he became chief operator for Richard Speaight, world renowned Court photographer of New Bond Street, London, whose clientele were the royal families and nobility of Europe.

A few years later—1908 to be exact—while visiting the U.S., Rosher attended a convention of the Photographers Association of America where he met George Eastman, also George Harris of

(Continued on Page 58)

KARL STRUSS, A.S.C., once a prominent photographic illustrator, celebrated his 28th year as a cinematographer on the set of "Atlantis."

CONGRATULATIONS

To All Directors of Photography

NOMINATED

For Academy Awards For

OUTSTANDING PHOTOGRAPHY

Black and White and Color

And To Their Associate

OPERATIVE and ASSISTANT

CAMERAMEN

SALUTE

TO THE WINNERS

EASTMAN FILMS

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EXCELLENT pictorial composition is self-evident in this prize still. Note how the photographer made use of the picturesque cloud formation as a backdrop for his subjects, then set his camera low for heightened dramatic effect.

How To Get Good Composition In Cine Photography

It's essential if you aim for professional results in your movie making.

By CHARLES LORING

COMPOSITION, as it applies to motion pictures, is a subject which too many amateur movie makers shun in the belief it is well over their heads and far too complicated to understand except by professionals. Not only is this untrue, but the serious cine amateur—before he can hope to progress to or approach the professional level of cinematography—must know composition and know it well.

This need not be a discouraging thought. It does not mean long hours spent in studying the elements of composition. Surprising enough, most serious filmers who are doing advanced work

with their cameras are fairly well versed in the elements of composition by virtue of a natural born artistic instinct, which is invariably found in the cameraist who loves photography. So we can skip some of the elementary stuff and jump right into a discussion of practical composition as applied to motion picture photography.

Pictorial composition for the screen differs from that employed in almost any other art form mainly because it is essentially *fluid* rather than *static*. By fluid we mean that it constantly changes as the camera and the elements of the scene move and change special relationship.

The moving camera—mounted on

crane, dolly or camera car—is part and parcel of the moving picture. The camera should be free to move for the purpose of following action or emphasizing a situation. Similarly, players should be free to move within the frame so that the action will not be restricted. Static compositions in which the players dare not move for fear of disturbing the balance are deadly to the motion picture. One might just as well film a series of still pictures.

Screen composition, then, is a constantly changing thing—but it has its rules and can be controlled quite precisely through proper co-ordination of camera and action. The cameraman's one never-changing element in composition is the frame itself—a rectangle in 3 to 4 proportion into which everything in the picture must be made to fit. The cameraman must learn to look at every new screen situation in terms of how it will appear when set in a horizontal space of the above proportions.

The frame itself is a prime compositional element into which the other elements fit, and by moving the frame lines in relation to the subject any number of different compositions can be achieved. The cameraman can profitably experiment at times by trying different types of framing before actually shooting the scene.

The rule of "thirds" is a basic principle of composition in all of the graphic arts, but it applies particularly to motion pictures, especially in long panoramic shots which embrace a good deal of area and many separate details. In applying the rule, the cameraman must imagine that the screen is divided into thirds—both vertically and horizontally. For the most pleasing composition the most important details of the scene should fall at points where these lines intersect. Obviously, this is no hard and fast rule, nor should it be adhered to so literally that the action becomes static.

Usually a precisely centered or symmetrical composition lacks drama. In most cases it is better to shoot the subject from one side or the other in order to create some sort of emphasis. However, there are exceptions to this rule as well, for there are times when a completely symmetrical composition is artistically pleasing on the screen. This sort of arrangement is usually most effective as a background to action which follows a less regular pattern.

The horizon line is an element of

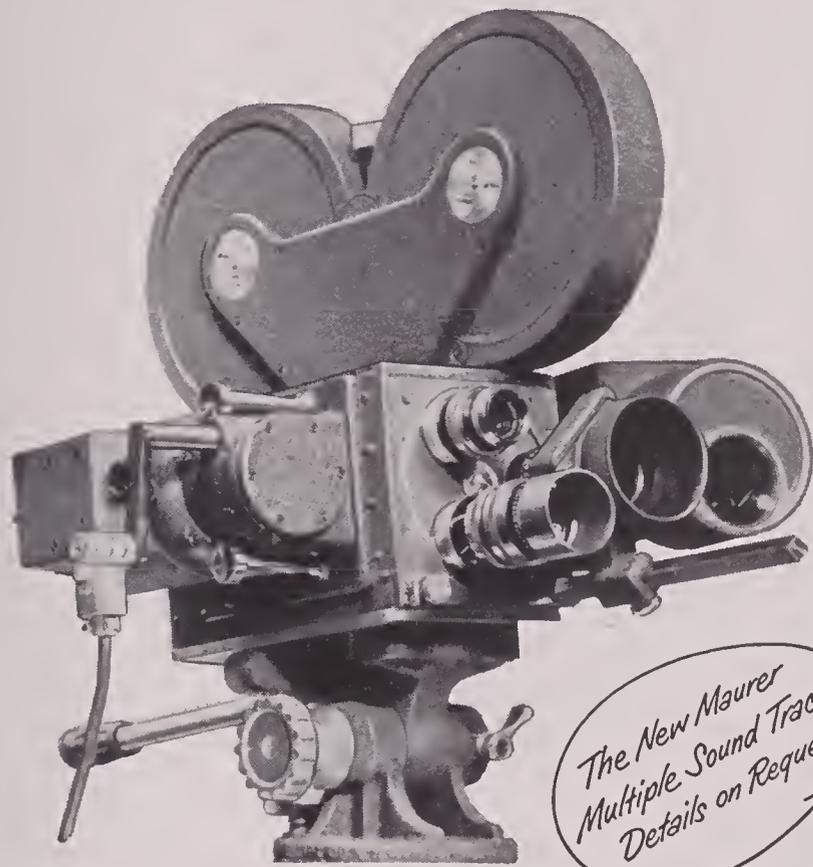
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TV FEATURES

OF THE

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16 MM. CAMERA



*The New Maurer
Multiple Sound Track
Details on Request*

The Maurer 16 mm. camera is the answer to your exacting TV production requirements. Designed *specifically* for professional use, it produces steadier, sharper and more accurately composed pictures under all conditions. Ease of operation, combined with many other unique features make the Maurer Professional tops in performance and dependability.

***The 16 mm. Camera Designed
Specifically for Professional Use!***

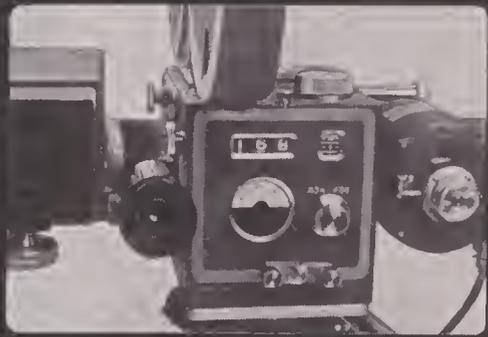
*For details on these and other exclusive
Maurer features, Write:*



In the exclusive Maurer intermittent movement the functions of the pull-down claw and registration pin are combined, giving accurate registration in old or new film. Because it depends to a minimum extent upon the accuracy of 16 mm. perforations, this movement provides the most accurate registration obtainable.



The unique Maurer focusing system provides full field composition through the taking lens. The image seen through the clear glass reticle permits the greatest magnification ever obtained in a motion picture camera for critical focusing, therefore obtaining the greatest accuracy.



The Maurer variable shutter has a 235° open segment . . . allowing use of a smaller aperture with the same lighting . . . giving greater depth of field. Collimated in 1/2 lens stops, it permits quick and accurate change of exposure while shooting. The additional light transmission permits you to shoot your originals in color easily, a factor which is valuable now and may become much more important.

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Filming Wild Birds in 16mm. Color

Periscope and burlap blind aid in securing rare films of bird life.

By F. C. MOULTRIE

HAVING MADE numerous amateur photoplays, commercial films and travelogues over a period of years, this writer decided recently to make a 16mm. motion picture of wild bird life in color, assisted by a fellow cine amateur. We had read a great deal about the types of "blinds" used by other photographers and as a result equipped ourselves with a conventional type burlap shelter in which to conceal ourselves and our equipment.

We believe in using a rugged, rock-steady support for the camera. Therefore my 16mm. Bolex was mounted upon an adapted 35mm. tripod which, though extremely heavy to carry through miles of bush and marshland, still remains an invaluable asset. When we decided to film our bird subjects, we had already entered upon the nesting-season for migratory birds in our part of the Continent, and we had no time to lose if we were to secure a good selection for our film record.

In the vicinity of the Great Lakes, where we are located, we are sometimes subjected to strong, gusty winds in late Spring and early Summer and, in spite of our determination to demonstrate the necessary degree of patience, the burlap sides of our blind would occasionally indulge in violent and uncontrollable flappings. What bird could retain its equanimity in the proximity of a strange, bulky creature with a rapidly pulsating and noisily flapping carcass? It is not surprising that a timid wild bird will often remain away from its nest hours, even a day at a time, when so confronted.

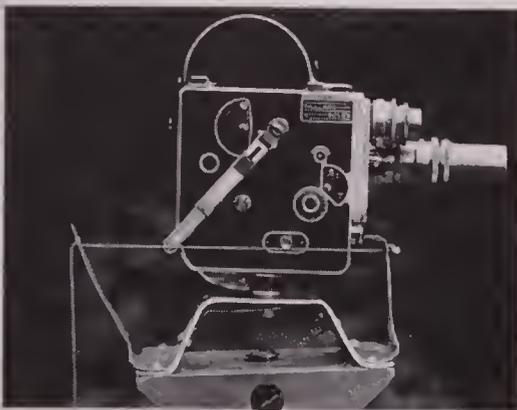
Nevertheless, in spite of this handicap, we succeeded in securing some very fine shots, though we were becoming more and more convinced that something better would have to be devised if our nerves were to survive the ordeal!

Even when using a 75mm. telephoto lens, it is still necessary to be quite close to a small bird if it is to fill a large enough area of the frame; and, with sun pouring down relentlessly on the exterior of the blind, there is enough discomfort from the heat and insects to try one's fortitude to the limit. Yet it is often required to remain quiet and still for hours at a time. In one case we had

to return to the same spot three days in succession before the timid little creature that was our subject would return to its nest. In another case, two full days of waiting were sustained. This, in spite of setting up dummy blinds each day as we left, in the hope the bird would become accustomed to its presence. With the imposition of such an "endurance test," it is extremely undesirable to have a bird frightened away at a critical moment through circumstances which,



SIMPLE burlap "blind" shown here conceals only the camera operator. The camera, pre-focused, is set in motion by remote control by the concealed operator whenever subject appears within field of view of the lens, as observed by the operator through the periscope, indicated by arrow.



AUTHOR'S quickly improvised remote control and camera actuator is shown here, made from strips of springy Duralumin. The 16mm. Bolex camera is set in motion by a downward pull on the cord, and stopped when the cord is released.

we began to feel, might be corrected.

While muttering to ourselves for the hundredth time "Something will have to be done about this," we suddenly had an inspiration. We were now thinking more about our personal comfort for, in wriggling this way and that, we were adding to the capers of the wind by prodding the burlap sides with head or elbows. It was here that we conceived the idea of using a periscope. This, we reasoned, should at least permit one to recline at comparative ease on the ground while watching for the bird's return by "remote control."

That night we constructed a simple periscope from cardboard and two mirrors from a ladies' compact. We also wished to control the camera from below. We were unable to purchase a long antinuous release locally, so, requiring something in a hurry, we constructed a very effective and foolproof triggering device from some springy, sheet Duralumin, which we actuated by pulling downward on a length of fishing-line. After thoroughly testing its operation, having fulfilled the requirement of ruggedness and infallibility, we duly set it up the following day and found that we were able to make ourselves so much more comfortable by its use and that it was now possible to remain still with much greater ease. It was a quieter day, too, and, when our bird returned he was clearly visible as we watched, unseen, through our periscope from near ground-level. The results were extremely gratifying and we congratulated ourselves upon having developed the "perfect system."

We were still plagued by the flapping burlap sides of our blind, however, and felt sure that our need for endurance was being unnecessarily prolonged by it. The terrain often prevented the use of tent-pegs to provide additional security and on one occasion the wind blew so violently that the structure filled out like a balloon and the entire outfit, camera and all, toppled over. Fortunately it was saved in time, but its setting had been disturbed and a new light-reading had to be taken, and general adjustments re-made.

(Continued on Page 64)

For the WINNER...

of AMERICAN CINEMATOGRAPHER'S 1950

AMATEUR MOTION PICTURE COMPETITION

This Handsome AMERICAN CINEMATOGRAPHER AWARD

In addition -- six Achievement Awards!

Less than 30 days remain
to enter films!

Competition closes
midnight, March 1st!



Kathryn Grayson, star of M-G-M's forthcoming "The Toast of New Orleans," presents for our reader's inspection the handsome American Cinematographer Award that goes to lucky winner of American Cinematographer's 1950 Amateur Motion Picture Competition.

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 or club submitting the film.

- Competition open to members of amateur movie clubs within the U.S. Clubs will evaluate and enter the best 8mm. and best 16mm. film completed by a member since January 1, 1948. Individuals (non-club-members) may also compete by submitting films to their local amateur movie club for entry at discretion of the club. (Refer to your local camera store for name and address of local club, or write the Editor.)

- Amateur movie clubs may enter films not to exceed 4, as follows:

- Best 8mm. member-made film.
- Best 16mm. member-made film.
- Best 8mm. non-member film.
- Best 16mm. non-member film.

- Film length limits: 16mm.—800 feet. 8mm.—400 feet.

- Entry Fee: \$1.00 for each subject submitted

- Each film reel as well as its container must be plainly and securely labeled with owner's name and address plus name and address of club entering the film.

- All films must be shipped on reels and in cans to contest headquarters fully prepaid. Entry blank and fee should be mailed in advance of film. Films will be returned directly to owner via Express collect, fully insured. Be sure to indicate value on your entry blank for which films are to be insured.

- Please indicate make and model of camera and the lenses used in making your picture, also brand of film used. This information will have no bearing on evaluation of films, but is desired by judges for reference.

- All entries must be submitted before **March 1, 1950**. Send for your entry blank which may be obtained by writing The Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood, Calif.





LIKE OLD TIMES — Fellow A.S.C. members and old-time associates gathered in Hollywood recently to honor Fred W. Jackman, executive vice-president of organization. Re-enacting the shooting of an old silent-days movie are (standing, left to right) Mack Sennett, Hal Roach and Jackman. Seated are Charles G. Clarke, A.S.C. prexy and Jack Warner.



CHARLES G. CLARKE presented commemorative plaque to Fred Jackman, honoring his many years service to members of the A.S.C.



MACK SENNETT laughed when told by Hal Roach (left) how he and Fred Jackman made their first motion picture together, using negative borrowed from Sennett.

Fred Jackman Feted By A.S.C.

More than one hundred and fifty members of the American Society of Cinematographers and their friends gathered together at the Society's clubhouse in Hollywood, the night of January 11th, to honor Fred W. Jackman, Executive Vice-President and Treasurer of the organization.

Ordinarily the man who arranges the Society's festive affairs each month, Jackman had the tables turned on him in what proved a surprise dinner in his honor arranged by A.S.C. President Charles G. Clarke.

Several of Fred Jackman's early associates were on hand to pay him special honor, including Mack Sennett, who Jackman served for many years as cinematographer; Hal Roach, Jr., for whom he photographed Harold Lloyd comedies and feature films; and Jack Warner, of

Warner Brothers Studio where Jackman installed one of the first and finest trick effects departments in the industry.

President Clarke paid tribute to Jackman for the many services he has performed for the Society in the 30 years he has been a member, and in behalf of the members of the A.S.C. presented Jackman with an engraved plaque commemorating this service. Engraved on the plaque is the following inscription:

"Presented To Fred W. Jackman in appreciation of his many years of faithful and untiring devotion to the interests of members of the American Society Of Cinematographers—January 11, 1950."

Another gift was an old time Pathe motion picture camera, a fitting memento of bygone days when Fred Jackman operated a replica of this camera for Mack Sennett and Hal Roach. The camera,

complete with tripod and a "gag" slate, suggesting it had been used in filming "The Great Train Robbery" at turn of the century, was the gift of Cliff Thomas, head of Hollywood Camera Exchange. Ray Fernstrom and Virgil Miller rounded up old-time props such as puttees and visored cap—regulation attire for cameramen in those days.

After the presentation, a reel of film was screened showing some examples of Jackman's famous trick photography, which highlighted Mack Sennett's early-day Keystone comedies.

Fred Jackman was first elected president of the A.S.C. in April, 1921, and served two terms. He was again elected to this office in 1941, served two terms. He was elected Executive Vice-President and Treasurer in 1943—a post he has held continuously ever since.

Lee Garmes To Film TV Series

An organization made up of former David Selznick personnel, including cinematographer Lee Garmes, A.S.C., and headed by William Dieterle, veteran film director, will produce television films exclusively for Don Lee's Hollywood television station.

Films of half-hour length will be produced for telecasting over KTSL and also will be syndicated to other TV stations in the U. S.

More Cash For Television Films

An encouraging note for producers of television films is word that Proctor & Gamble, soap manufacturers, influenced by the steadily increasing sales of television sets nationally, is now paying \$5000 per film for the ten TV films made under aegis of Bing Crosby. In comparison, company is said to have paid only \$3750 for each of the 52 films it bought last year, and it is estimated they'll bid to \$7500 each for others before end of year.

B&H President Honored By National JC's

The United States Junior Chamber of Commerce, representing 1800 local Junior Chambers of Commerce and over 160,000 members, has announced the selection of Charles H. Percy, 30, President of Bell & Howell Company, as one of the Ten Outstanding Young Men of the Nation during 1949. Percy, head of one of the country's leading photographic equipment manufacturers, was the only businessman chosen this year to receive the award. He was presented with the Distinguished Service Award Key and Scroll of Honor by Paul G.

Hoffman, ECA Administrator, at an award banquet held in Peoria, Illinois, January 21, 1950.

The award is presented annually to the ten men between the ages of 21 and 36 "who have won outstanding success in their fields and have advanced the welfare of the people on a national level." Percy was the joint nominee of the Junior Chambers of Commerce of both Evanston (Ill.) and Chicago. Commenting on his nomination, Lem H. Tate and Laurence C. Buckmaster, spokesmen for both organizations, said: "Chuck Perry was the unanimous choice because his achievement is an example of the finest kind of business leadership that young men of our generation are capable of furnishing."

Alfacolor—New British Color Film Announced

Meeting the demand in England for a 16mm. color film suitable for both amateur and commercial purposes is the Alfacolour system recently introduced by the Alfa Laboratories Ltd., 72 Wardour St., London. Alfa-colour is a bi-pack system which is three-color developed.

Processing of 35mm. Alfacolour begins this month at Alfa's new laboratory recently constructed at Redhill, Surrey. The company expects shortly to announce its new negative-positive color process for 16mm.

Pioneer East Coast Studio Dismantled

The old pioneer Filmcraft Studio in New York has finally gone dark after almost a half century of continuous operation. Originally known as the Edison Studios, the block long six story structure gave birth to many of the early movie greats and was the proving ground for present day Hollywood techniques.

Paramount, Universal, Audio Productions, Columbia, Soundmasters and many Independents frequently used Filmcraft's facilities, but the volume of Eastern production never quite succeeded in keeping the studio busy after the war. For several years J. A. Tanney, head of S.O.S. Cinema Supply Corp., who handled the property for the former Mills interests, attempted to find a suitable successor.

Tanney has moved hundreds of spotlights, dimmers, dollies, lamps, jacks, barndoors, background projection equipment, cameras, Selsyn motors, sound playbacks, microphone booms, etc., to his own warehouses in Midtown Manhattan where the equipment is now being offered for sale.

Nominees For 1949 Academy Awards For Cinematography Announced

Fox Cameramen lead list with a total of six nominees

Final nominating ballots went into the mail January 28th, addressed to all Directors of Photography in Hollywood, following the special screening of the last of the twenty films nominated for Academy Awards for Cinematography from the preliminary list submitted by the cameramen early this year.

The titles of more than fifty black-and-white and color films were submitted for consideration, and this list was narrowed down to twenty—ten black-and-white and ten color—in the preliminary balloting.

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

Black and White: "All The King's Men," by Burnett Guffy, A.S.C. (Columbia); "Champion," by Frank Planer, A.S.C. (United-Artists); "Battle-ground," by Paul Vogel, A.S.C. (M-G-M); "Come To The Stable," by Joseph LaShelle, A.S.C. (Fox); "The Fountainhead," by Robert Burks, A.S.C. (Warner Bros.); "Pinky," by Joseph MacDonald, A.S.C. (Fox); "The Heiress," by Daniel Fapp, A.S.C. (Paramount); "A Letter To Three Wives," by Arthur Miller, A.S.C. (Fox); "Prince Of Foxes," by Leon Shamroy, A.S.C. (Fox); and "Sands Of Iwo Jima," by Reggie Lanning (Republic).

Color: "The Barkleys Of Broadway," by Harry Stradling, A.S.C. (M-G-M); "The Blue Lagoon," by Arthur Ibbetson (J. Arthur Rank-U.I.); "Jolson Sings Again," by William Snyder, A.S.C. (Columbia); "Little Women," by Charles Schoenbaum, A.S.C. (M-G-M); "Look For The Silver Lining," by Peve-rell Marley, A.S.C. (Warner Brothers); "Red Canyon," by Irving Glassberg, A.S.C. (Univ.-Int.); "Oh, You Beautiful Doll!" by Harry Jackson, A.S.C. (Fox); "The Red Pony," by Tony Gaudio (Republic); "Sand," by Charles G. Clarke, A.S.C. (Fox) and "She Wore A Yellow Ribbon," by Winton Hoch, A.S.C. (Argosy).

Again this year, Twentieth Century-Fox leads the list with a total of six nominees; Metro-Goldwyn-Mayer is next with three and Columbia and Warner Brothers tie for third place with two each.

Result of voting on the ballots now in the mail will narrow the above list down to five black-and-white and five color films, from among which members of the Academy of Motion Picture Arts

and Sciences will select the best film in each class and prepare a gold "Oscar" for its photographer.

The winning Directors of Photography will not be announced until the night of the Annual Academy Awards presentation, which will take place this year at the Hollywood Pantages Theatre, the evening of March 23rd.

New Light Balancing Filters Announced

Four new filters which extend the present series of Kodak Light Balancing Filters (yellowish) have been announced by the Eastman Kodak Company. These filters, Nos. 81E, 81F, 81G, and 81H Kodak Light Balancing Filters, will be available from Kodak dealers in 2- and 3-inch gelatin film squares. The 81E and 81H will be available within the next few weeks in Series V and Series VI Kodak Combination Lens Attachments.

As in the case of the Kodak Light Balancing Filters Nos. 81 through 81D, each of the new filters lowers the effective color temperature of the exposing light about 100°K more than the preceding member of the series. With the complete series, photographers will now be able to select precisely the correct light balancing filter for use with various color films and different types of flash lamps. Combinations of filters can be used to meet special requirements.

Those Russians— What Inventors!

Russia now claims for discovery, among other things, that it is the "birth-place of motion pictures." An International News Service report stated recently that a Soviet newspaper has credited Russian scientists with the development of film itself, invention of the first movie camera and the first to use the "fadeout." Another Russian publication credited the Reds with being the first to create both negative and positive film, first inventors of color film and the first to introduce sound films.

Universal - International Adopts Magnetic Recording

Universal International joins the parade of major studios turning to magnetic tape and film for sound recording of pictures. Studio's experiments in magnetic recording of sound sequences reached a new high in extensiveness during the filming of location scenes for "Outside The Wall."

FILMING A TRIP TO THE MOON

(Continued from Page 46)

4, was a vast exterior representing the spot on the moon's surface where the scientists land with their rocket ship. Here the best scenic artists Hollywood can produce worked with art director Fegte in re-creating what is considered the present day terrain and landscape of the moon. All the while this vast set was being constructed, cinematographer Lindon worked closely with the scenic artists and with the famous astronomical painter, Chesley Bonestell, who aided in the set design, that his lighting should match that painted on the vast backdrop covering the stage on three sides.

On another stage were constructed sections of the space ship where most of the action of the picture takes place. Here the intrepid scientists were to undergo new and startling experiences, as the ship entered the vacuum far beyond the gravitational pull of the earth—such as floating in space and the ability to walk up the walls and on the ceiling of their compartment in the space ship, much the same as flies. Powerful magnets attached to the soles and heels of the men's shoes, according to the script, afforded them this strange new power.

In another sequence the four scientists, in heavily-padded suits and helmets, emerge from their compartment within the ship during its flight to inspect a jammed radar antenna. On the screen they appear to exit from a port on the under side of the ship as it zips through space, walk out on the ship's surface, heads down, then walk in their magnetized shoes around the slick streamlined body—like human flies—until they are seen on top.

For all these scenes, Lindon was aided by several pieces of unique camera equipment and by ingenious engineering of the sets. The first set described above—that of the space ship interior—was built to rotate both vertically and horizontally. Thus, to photograph the men walking up the walls of the compartment, the set was simply turned over on its side, and the men performed normally.

Lindon's camera was mounted on a large crane. Position of the crane was never moved in order to get reverse shots or change in camera angle. Instead, the set was revolved a quarter or half turn, a section of the wall removed, and the action photographed.

To create the illusion of the men walking upside down like flies on the belly of the ship, in the second scene, Lindon employed a unique rotating camera base. Shown in the photographs, the apparatus permitted turning the camera upside down to photograph the men walking

normally on top of the ship. To catch the men coming up over the side, the camera was stopped and turned right side up, then the ship was rolled over and the men filmed walking normally, as before. The illusion was completed through deft cutting of the film in the editing.

Another interesting sequence takes place when one of the men decides to walk aft on the ship to inspect the rocket tubes, which were thought to be damaged in the takeoff. In an unguarded moment, the man releases his shoe magnets from the ship's metal surface and falls off into space. But instead of dropping out of sight into the vast void, he simply floats in space like a cork bobbing in water. You see, he's beyond the gravitational pull of the earth, in vacuum. The story provides for a spectacular rescue by one of the scientists, who secures an oxygen tank from within the ship, wraps his legs and arms around it and projects himself into space by opening the valve in the oxygen tank. The tank thus acts something like a rocket—the escaping oxygen pushing it through space with its passenger.

Thus propelled through space, the rescuer reaches his drifting pal, takes him aboard, and, pointing the oxygen exhaust tube in the proper direction, is propelled back to the space ship.

Imaginative? You bet! But, according to scientists, all this easily could take place in the void far above the earth. Here again, Lindon's resourcefulness was called upon to make this action as real as eating breakfast. First there was a problem to overcome. Because this was a Technicolor picture, powerful lighting was required on the set and this precluded suspending the drifting actor by means of "invisible" wires, because the wires would show up in close shots. So Lindon resorted to an old trick—covered a camera dolly with black velvet, placed the actor upon it, and filmed away with the camera set low to catch the starry background.

For additional shots of this same action, he ran a stout plank from the end of the camera boom, placed his actor upon it and focused the lens so it would just miss the improvised support. For additional scenes, the studio, overnight, constructed a sturdier boom of tubular steel, made it telescoping and provided a small padded seat for the player, and the action was completed the following day.

Lindon's biggest lighting problem on the moon set was keeping the atmosphere crystal clear, as scientists say it is on the moon. The arc lamps were a constant

source of blue smoke and it was necessary to keep huge exhaust fans working, all the ventilators going, and all stage doors open in order to keep the atmosphere clear.

Another problem were the simulated stars in the background of the set. These were small automobile headlight bulbs—between 1700 and 2000 of them—suspended on small wires from the stage ceiling. Each lamp was wrapped with a piece of filter gel to make its light appear white to the Technicolor camera. Because the gels would fade from the lamps' heat over a short period of time, Lindon said, they had to be replaced twice daily—at noon and again at night after the day's shooting had been completed. The wiring for this network of "stars" amounted to over 70,000 feet!

From the very start, producer George Pal insisted that the picture must not have anything remotely suggesting fakery. For this reason he employed as technical advisers some of the best scientific brains currently studying space ship engineering and navigation, and experts in astronomy—and, of course, Lionel Lindon to translate their unified conception into visual reality through the medium of Technicolor photography. "Destination Moon" is high on the "must" list of pictures to see during 1950.

STILL PHOTOGRAPHY TO CINEMATOGRAPHY

(Continued from Page 50)

the famous photographic firm of Harris & Ewing. Harris, who knew of Rosher's reputation as a photographer offered him a job as operator which he accepted. It was while he was employed here that Rosher became interested in motion picture photography. He bought one of the old Williamson cameras and now devoted much of his time to shooting news events, which he sold to various newsreel companies. This led to a meeting with William and David Horsley, heads of the old pioneer Centaur Film Company in Bayonne, New Jersey, who hired him as a cameraman and sent him out to California in 1911 to their Hollywood "branch"—the old Nestor Studio—the first in California, incidentally, located at the corner of Sunset Blvd. and Gower Street, where Columbia Broadcasting Company's studio now stands.

When Universal Studios were completed, Universal took over Nestor and Rosher moved his camera out to the valley lot to become one of Universals first cameramen. Subsequently he went to Mexico to film the activities of the real Pancho Villa, and when he returned to Hollywood he joined the Jesse Lasky Feature Film Company which later be-

came Famous Players Lasky. There Rosher met Mary Pickford and began an association with the famous star that was to last more than a dozen years. Directors and leading men might come and go, but for years—right up to her retirement—no one but Charles Rosher was trusted to photograph the First Lady of Hollywood. When Miss Pickford spoke at the dedicatory ceremonies opening the George Eastman House, in Rochester, New York, recently, she credited Rosher with being the first cameraman to use artificial light as booster illumination for exterior shots. He is also credited with being the first to use arc spotlights for key lighting. Generally considered one of the few masters of things cinematic, Rosher remains, nevertheless, an avid student of photography. One of the founders of the American Society of Cinematographers, Rosher is also a Fellow of The Royal Photographic Society, and an Associate of the Photographic Society of America.

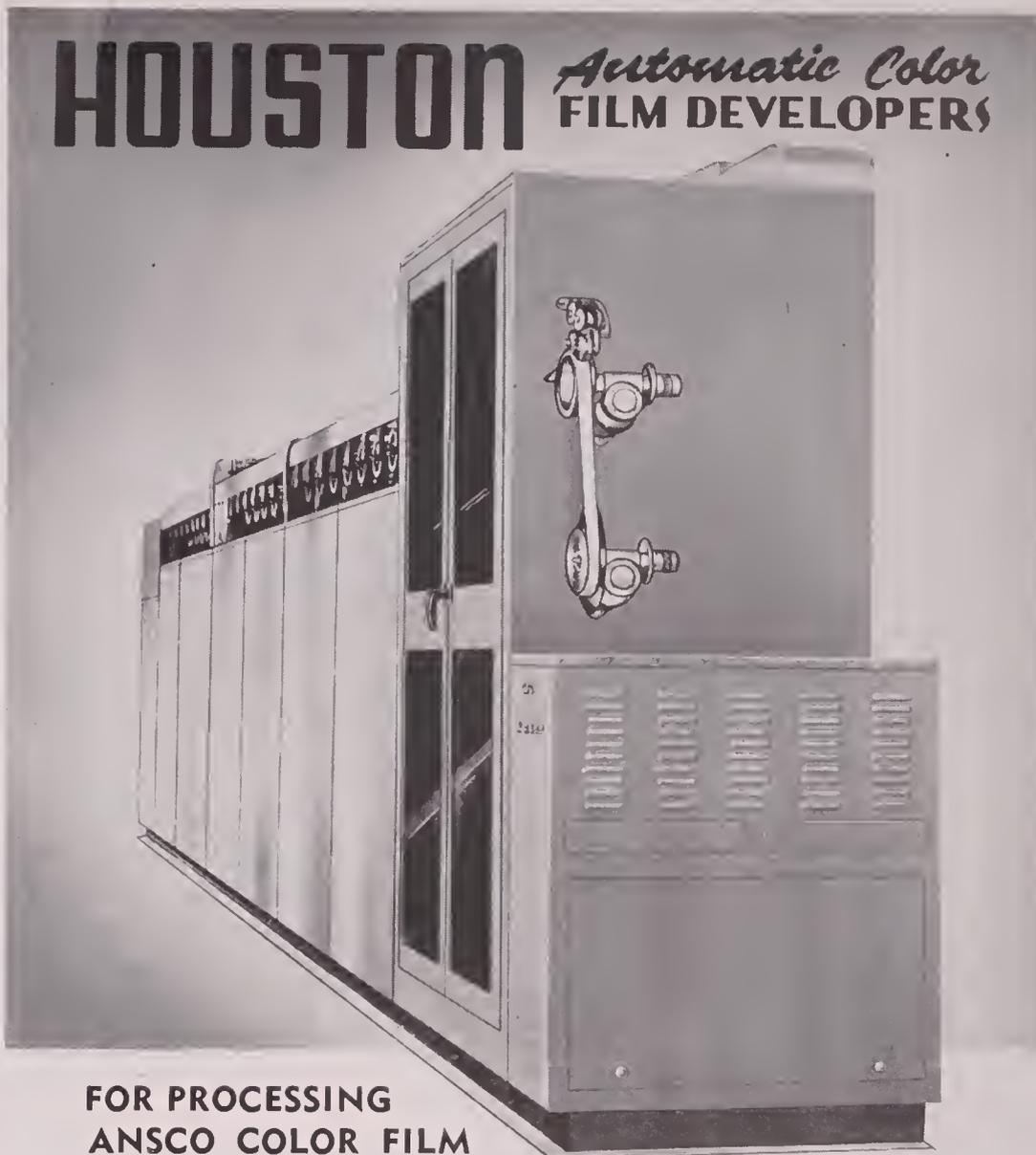
Karl Struss, A.S.C., is another of Hollywood's camera aces who had built an impressive reputation as a portrait and commercial photographer before taking up cinematography.

Karl Struss began his study of photography as a pupil of Clarence H. White in 1908. In 1912 he graduated and took over White's studio on West 31st Street in New York City. At first, Struss set himself up as a portrait photographer. Then he switched over to magazine illustration and advertising photography, which was then just beginning its triumphant progress. When World War I broke out, Struss joined the service and became an instructor in aerial photography in the army air force. When the war ended, Struss logically enough went to Hollywood. First he got a job as still photographer with Cecil B. De Mille. In three months he was promoted to a motion picture camera as a second cameraman. In 1927, when sound came in, Struss was elevated to director of photography.

With the possible exception of westerns, every conceivable type of feature production has flowed through his camera. He has gone from DeMillian spectacles to out-and-out horror dramas in both black and white and Technicolor. Last month he completed the photography on a feature production based on the life of a circus midget.

Karl Struss made the great change from pictorialist to motion picture photographer smoothly, and developed into an undoubted and widely recognized leader in his field.

Many of the industry's top cinematographers rose from the ranks of press photographers, too. Take Joseph Ruttenberg, A.S.C., for instance. Ruttenberg



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began his photographic career as a camera reporter for Hearst's "Boston-American." Joe started with the "American" as a copy boy, then was promoted assistant to the head of the photographic darkroom. He hadn't been on the job long when a big news story broke suddenly. A big excursion steamer had crashed on the rocks down the coast and all the newspaper's cameramen were rushed to the dock to photograph survivors as they landed, and especially to buy up any snapshot films that had been exposed at the scene by surviving excursionists. Joe was left in charge of the darkroom. He tray-developed over 300 rolls of amateur films that night, in addition to the plates sent in by the paper's still men, and made hundreds of prints. As a result of his initiative, he was soon promoted to a full-fledged press photographer.

Ruttenberg spent eight years with the "American," then opened a successful portrait and commercial studio of his own. After a few years at this work, the movie bug began to bite Ruttenberg and he bought an old movie camera with the object of shooting newsreel material. He built his own film developing laboratory and for a year or more he photographed and produced a local newsreel for the Loew theatres in the Boston area. This provided him with a thorough grounding in the fundamentals of motion picture photography, for the project gave him experience in film developing and printing, editing and title making, in addition to photography.

By now, Joe felt he was ready to photograph feature films and headed for New York in quest of a job with one of the eastern studios. After a prolonged period of going from studio to studio, the break he sought finally came when the Fox East Coast Studio summoned him to fill an assistant cameraman's job. He wasn't an assistant long, though, for within a short time the first cameraman resigned from the picture, after an argument with the director, and Joe was asked if he felt he could carry on and finish the picture.

He felt he could, and proved it by finishing the picture in such fine style that from then on he remained a First Cameraman. Years later he moved to Hollywood and was signed by Warner Brothers as director of photography. Winning an Academy Award for his photography of "The Great Waltz," he went on to duplicate the feat with the photography of "Mrs. Miniver," in 1942. He is currently shooting "The Miniver Sequel" in London for M-G-M.

One cannot recall "How Green Was My Valley," "Song Of Bernadette," and "Anna And The King Of Siam," without remembering the impressive photography of each which netted Academy

Awards for the best black and white photography for Arthur Miller, A.S.C. Miller lays no claim to a background of press photography or portraitist. Rather he was a "ham" or advanced amateur with a yen to make snapshots. Early in life he developed two absorbing interests—fine horseflesh, and making pictures photographically. He became a jockey, but wherever he raced he always managed to have an improvised darkroom in one of the stables. In off moments he'd snap pictures of the horses, jockeys, the trainers, and others. Between races he'd develop and sell them—three prints for fifteen cents! It wasn't a profitable venture but it netted enough to enable him to buy more materials and equipment.

Then fate stepped in. An accident occurred that ended his career as a jockey. When he recovered he learned that his stable rented horses to a group of people who made moving pictures. He wangled the assignment of taking horses to the studio for their day's work. He fell in love with the big movie cameras, and made up his mind that one day he'd become a motion picture cameraman. As soon as he'd gotten sufficiently acquainted with Fred Balshofer, the cameraman, he asked for a job and was put to work in the laboratory.

"That was the pathway to a camera job back in 1909," says Miller, "and believe me it put one through a real course in practical photography. I began in the room where they perforated the film, then went up as assistant in the negative developing room. I learned to tone and tint film—a vogue in those days—and how to mix developers for negative and positive film. The next step was the printing room."

When Miller finished his apprenticeship in the lab, there was no such thing as an assistant cameraman. "When you landed a camera job in those days they simply handed you a camera and you went out and did the job," says Miller. One of his earliest and best remembered films was "The Perils Of Pauline"—a serial; and while it was not his first, it was very close to it. Because of the thorough training received in Balshofer's lab and his own inherent instinct for photography, Arthur Miller made good as a cinematographer from the start.

There are others, of course, among the directors of photography of Hollywood, who also were skilled photographers before succumbing to the lure of the movies, and whose early experiences make equally interesting reading. But their stories remain to be told in another article.

PRODUCING FILMS FOR TELEVISION

(Continued from Page 47)

sity occur. This effect is particularly noticeable when the dark areas occur near the lower and right borders of the picture area, and has the same appearance as the flashes of light sometimes seen in projecting processed reversal motion picture film which has been edge-fogged due to bent camera spools. It is difficult to state in simple terms the value of density at which this effect occurs, since it depends somewhat on the arrangement of the subject matter and the extent of shading control introduced by the monitor operator in the transmission of the picture. A statistical study of the problem would no doubt reveal a value for the maximum density, which, on the average, it would not be desirable to exceed. It is reasonably certain, however, that much less of this trouble will occur if the recommendations regarding density range compression are followed. The maximum diffuse density of a motion picture print made on Eastman Fine Grain Release Positive, Type 1302, intended for theater projection seldom exceeds 2.40. If, as recommended above, the density range is compressed by at least 0.3 for the television print, then the maximum diffuse density for the latter would be 2.10 or less. From practical photo-

graphic tests using the reduced lighting contrast recommended below, it is indicated that prints which are satisfactory for television transmission might have a maximum diffuse density (for the deepest shadow) of about 1.6 to 1.7 and a minimum (highlight) density of about 0.07 to 0.15 including fog. These values are for prints made on Eastman Fine Grain Release Positive, Type 1302*, for a Type IIb Sensitometer control gamma of 2.2 to 2.5.

As stated above, the edge-flare effect is much more noticeable when dark areas occur near the lower and right borders of the picture area. Care should therefore be exercised in the design of sets and in the lighting technique to avoid this condition wherever possible. The so-called "effect lighting," often employed for the sake of dramatic emphasis, generally results in these conditions and therefore is not usually desirable.

For those who are familiar with the lighting technique employed in color photography, the lighting of sets for making television films should offer no serious problems since the requirements are very similar. The balancing light used to con-

*Type 5302 for 35mm. Safety Film and Type 7302 for 16mm. Film.

trol contrast, usually referred to as the "fill-light," should give an illumination level having a definite ratio to the "key-light." The "key-light" is that light source used to illuminate the highlight area of the subject of greatest interest and this area is the one on which the exposure is based. Typical lighting setups showing the placement of the key-light, fill-lights, and auxiliary-lights in relation to the subject and camera were shown in Figures 1 and 2 on page 12 of the January issue. The ratio of fill-light to key-light illumination may be conveniently measured by means of photoelectric exposure meters, which are equipped to measure *incident* light. Such meters are used at the position of the subject and are pointed at the light source. When measurements are made in this manner the ratio of fill-light to key-light so determined is called the *lighting contrast*. The key-light level should be checked after all fill-lights have been arranged. The ratio should be the same as that used in exposing color reversal films, namely, about 1 to 2, and should seldom exceed 1 to 4.

It should be noted that the term "lighting contrast" is not synonymous with the terms "subject contrast" or "subject brightness range." The true subject contrast or subject brightness range is usually much higher than the lighting contrast, since it takes into account the different reflectances of the various elements of the scene. It can be measured accurately only by means of a flare-free telescopic type brightness photometer, which measures an extremely small area and which allows the instrument to be situated at a sufficient distance so as not to obstruct any light falling on the subject. These instruments, however, are usually only available for research work demanding measurements of the utmost precision. As a practical approach to the problem, it is possible to make reflected light readings of various areas of the scene with exposure meters which are equipped for making reflection measurements. The readings obtained with these meters do not, of course, give a measure of the true subject brightness range because of the greater angular response of the meters and because of the possible creation of shadows in making the measurements. Such reflected light readings are nevertheless very useful in roughly determining whether the various areas of the subject will be correctly rendered by the photographic material. When reflected light measurements of the lightest and darkest areas of greatest interest are made, the ratio will depend not only upon the lighting contrast but also upon the color of the areas measured, upon their reflectances and upon their surface textures. The ratio will vary, therefore,



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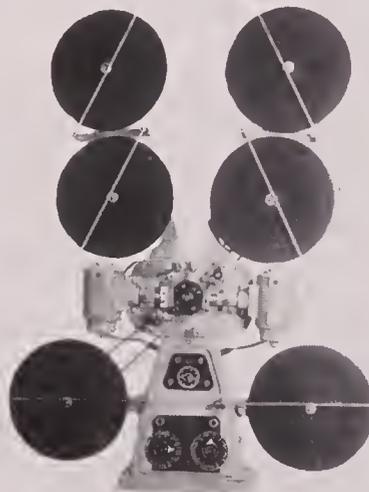
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for different subjects, but for most subjects it should be less than about 1 to 30 when the lighting contrast has been properly adjusted to a ratio of 1 to 2, and not greater than 1 to 4. If the reflected light reading ratio is greater than 1 to 30, then the lighting contrast should be reduced to bring the former within the proper limits.

In photographing outdoor scenes, the lighting contrast is more difficult to control, but a great deal can be done with the aid of reflectors to reflect light into shadows, thereby reducing the contrast. For this purpose "hard" and "soft" reflectors can be used. Aluminum paint, tin foil, pure white cardboard, and sometimes mirrors are employed. When aluminum paint is used on a smooth surface, it provides a "hard," mirrorlike spot of bright light. When used on a rough surface, it provides "soft" diffuse light.

The exposure should be so adjusted as to obtain a negative silver density (not including base density) for the deepest shadow between approximately 0.1 and 0.25 when the negative material has been developed to the normal gamma of 0.60 to 0.70. With the lighting contrast recommended, this negative will, of course, have a lower density range than a normal motion picture negative and this fact should be kept in mind in making any visual estimates of it.

A variety of film types are available for use in television studio photography. The following materials provide a wide choice in film types, each designed to fulfill the requirements for different situations and characteristics. Technical data on any or all of these materials will be supplied by the Eastman Kodak Company upon request.

35mm. NEGATIVE TYPES

Eastman Background - X Panchromatic Negative Film, Type 1230.

Eastman Plux-X Panchromatic Negative Film, Type 1231.

Eastman Super-XX Panchromatic Negative Film, Type 1232.

16mm. NEGATIVE TYPES

Eastman Panchromatic Negative Safety Film, Type 5240.

Eastman Super-XX Panchromatic Negative Safety Film, Type 5242.

16mm. REVERSAL TYPES

Eastman Plux-X Blue Base Reversal Film, Type 5276.

Eastman Super-XX Blue Base Reversal Film, Type 5277.

Cine-Kodak Super-X Panchromatic Safety Film, Type 5256.

Cine-Kodak Super-XX Panchromatic Safety Film, Type 5261.

16mm. COLOR FILMS

Kodachrome Film, Daylight Type, 5263.

Kodachrome Film, Type A, 5264.

Kodachrome Commercial Film, 5268.

It is not to be inferred that the recommendations contained herein represent the ultimate techniques which will be followed in the future. Instead, they represent the best information which can be given in the present state of flux of a rapidly expanding industry.

camera without blimp and only the lightest of camera tripods. Also, it was impractical to use either booster lights or sunlight reflectors in most of the shots, because of the lack of flat surfaces and the difficulty of bringing a generator up far enough to supply current; and so, probably for the first time since the advent of sound pictures, an outdoor epic was shot almost entirely without benefit of booster light of any kind—no mean challenge in itself, considering we were shooting in color.

Try and visualize shooting on endless rocky terrain without the aid of booms or parallels; where the tripod must be held in place by the weight of members of the camera crew; and where a slip of a tripod leg would send a valuable camera and possibly members of its crew hurtling over a cliff to certain destruction. These were some of our problems every day for fourteen days. Many shots were made with the camera and operator or myself suspended from cables over the side of a cliff. Because it was essential that I line up each shot through the camera, it often proved more practical for me to remain and operate the camera, rather than risk moving it in trading places with the operator.

Many times, because of the nature of the terrain and because of the difficulty in finding a suitable spot to set up the camera, composition had to be sacrificed to some extent and dependance placed on the natural setting and the color separation of the Monopack medium to give us desired pictorial results. One thing I constantly strived for was a genuine "natural" result in the colors, avoiding harsh reds and other extremes. I used no filters at any time other than the regulation 114-A, which is always on the camera, indoors or out, when shooting Monopack.

We had but one day of the fourteen when the atmosphere was clear. The rest presented haze in varying degrees. But with Monopack, haze is no obstacle and in this instance it was a distinct advantage to the photography. I feel that in some of the scenes, it was the haze which created the beautiful pastel tones and genuine deep purple in the mountain shadows late in the day. It was gratifying to have negative reports come back from the laboratory indicating that an entire day's shooting, consisting of from 30 to 40 setups, was okay with respect to negative balance and photography. I mention this because of the necessity for a balanced negative with Monopack—especially when there is a delay of three or four days before the cinematographer can see his pilot strips or view the black and white prints.

To enhance our colors, it became necessary to resort to artificial coloring, both

TOUGH ASSIGNMENT

(Continued from Page 48)

for the spot. There, high on a mountain top, was a scenic vista looking like a page out of a travel folder, and dotted with high boulders. We peered down into a green valley with white ranch houses gleaming in the sun. And in the distance was a shimmering lake to complete the picture. Here was truly a cameraman's dream.

But like the pioneers and explorers of old, we were to discover that there is a price to pay for the privilege of enjoying such an unusual and beautiful spot. As we descended the mountain we contemplated the herculean task that would be involved in getting camera equipment, cast, crew and the herd of horses to the location. We were to experience this task a few weeks later when our first shooting day arrived.

First it became necessary for the studio to build ten miles of graded road to enable use to drive as close to the location site as possible. The road, incidentally, proved beneficial in another way a few days later when an airlines passenger transport crashed in fog near our location site, and enabled fire and

ambulance crews to drive rescue equipment within 150 feet of the crashed plane.

From the "end of the line," as we called the terminus of the makeshift road, it became necessary each day for the crew to haul our camera equipment up over the rugged terrain to the mountain top. For this they used pack mules. Cast and crew hiked to and from the location site daily.

The script called for a series of running inserts with mountainous terrain in the background. There was no semblance of a road on the mountain top, so it became necessary for the studio to build one. For this they required a bulldozer and a tank-truck of road oil for laying the dust. These had to be pushed and pulled up the side of the roadless mountain by means of a giant tractor. After this, the camera car was brought to the top by the same method.

From the very beginning we realized it would be too difficult to work with the huge Technicolor cameras in this locale. So we decided to shoot the entire picture in Monopack, using a Mitchell

in the scenic settings and in the horses used in the scenes. To give a pictorially pleasing green color to the parched grass, the studio sprayed the grass with a vegetable dye, harmless to animals. The studio art department also touched up the rocks to provide a more contrasty background for the Palomino horses. In all, 15,000 gallons of paint were used. To shoot scenes in a nearby canyon, which had been ravaged by fire several months earlier, it became necessary to remove charred brush and to repaint remaining tree stumps their natural color and add branches and green leaves.

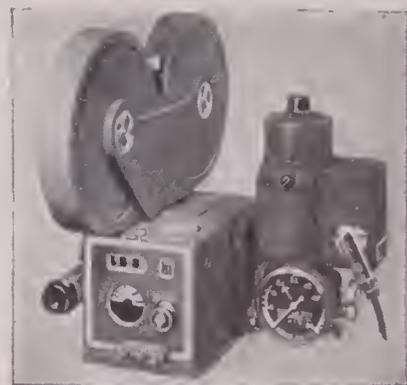
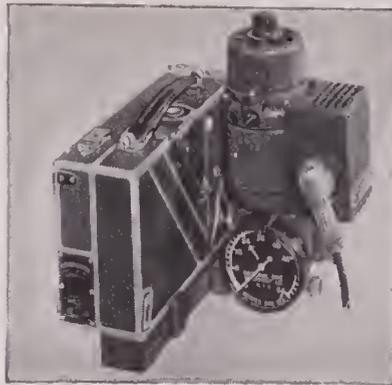
The equine star of the picture—world-famous Palomino, "Harvester"—valued at nearly \$100,000, had both a standin and a double; and the standin and the double also had doubles. The colt, which played a prominent part, also had a standin and a double—and there were doubles for them, too!

Because of the necessity for switching from one animal to another from time to time, we had a special makeup man whose job it was to match color and markings on the horses and colts. The studio hairdressing department provided special dyes to color the horses' manes and tails.

Not a single studio-built interior was used in the picture. Every scene, every take, was staged in a natural locale. The only artificial construction was a rough rail fence erected along the hastily constructed road already described. The only interiors shot were in a barn; and the only artificial light used in making the entire picture was in the barn interiors and a night sequence filmed in front of a ranch house. The rest of the picture was shot in sunlight.

The filming of "The Palomino" marks the first time any motion picture company has worked in this mountain location. Some may ask why background plates weren't used instead of working against such difficulties. But producer Robert Cohn has an answer for this: "It would have been more costly and the results wouldn't have given us the genuine appearance of scenic vistas so essential to the story."

Despite the hardships and obstacles encountered, we surprised the studio by winding up the picture in 14 days and within its budget—a record for a Monopack feature production. It stands as a credit to a fine crew which went to remarkable ends to insure its success. Students of the camera will find it interesting for the color photography and particularly because it was filmed for the most part under conditions similar to those encountered by the non-professional: bright sunlight, a natural locale and no artificial lighting aids. END.



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FILMING WILD BIRDS IN 16MM. COLOR

(Continued from Page 54)

Every time we emerged from the blind, and frisked around on these activities, the bird became alarmed anew and remained away for an additional hour or so. We got the impression they viewed us from a safe distance in a nearby tree and reasoned "Ah! I was right! I had an idea there was some two-legged interloper hiding in there! He's got some kind of trap fixed up, but he needn't think I'm going to walk right into it!" At about this point, a happy thought struck us. In the majority of cases, the reason for the disturbances to our shelter was because it had originally been designed to permit the operator to stand up at camera level and also to allow reasonable elbow-room. The framework had been constructed of light material in anticipation of long hikes through bushland or fields. Now, however, we had found means of operating from below and a large hideout was no longer required.

As we glanced down at the sturdy legs of our tripod, it was easy to see that these could be spread wide apart and would provide excellent framework upon which to tightly stretch much smaller pieces of burlap and thus defy the pranks of the wind. We could continue to recline below, watching via the periscope, with the camera starting cord in our hand. Having preset the camera, we disguised it with leaves secured with

scotch tape. At last we had a static object and, better still, a much smaller and less conspicuous one. The method met with complete success, reduced the time necessary to remain on the location by at least 50% and likewise reduced the fatigue to the operator.

The filming of small, wild birds by this or any other "pre-set" method, requires that the framing be such as to leave adequate space on top of the nest and on either side for a good picture without regard to where the bird may alight. This is a detail of which many filmers may be quite ignorant, for the parent bird may alight on either side, just above or in the center of the nest.

If possible, locate the nest well in advance of the time for filming, making a number of visits, during which you tie back a few of the leaves which may obscure light. Never clear away too many at a time and never leave the nest (if it is a tree bird) entirely exposed to the sun, as this may kill the young birds. It is usually best to await the hatching of the young birds before starting to take pictures. The parent birds are always more active and interesting at this period than when sitting on the nest.

Every shot taken by the method we have outlined has been highly satisfactory and, should our film sell when cut and edited, we plan to follow the same method in making another film of similar subject material.

COMPOSITION IN CINE PHOTOGRAPHY

(Continued from Page 52)

composition which some find difficult to control, because it naturally seems to find its way to the center of the composition. This, however, should be avoided because the result is too pat, and lacks drama. In general it is better to let the horizon line fall about at the lower third of the screen, favoring the sky with the bulk of the compositional area. In special cases (where there is a great deal of foreground action) it is effective to frame the horizon line so that it falls at the upper third of the screen.

It is an axiom of design that diagonal lines are more forceful and more pleasing to the eye than straight vertical or horizontal lines. This principle holds true also in motion picture composition. For this reason it is well to avoid unimaginative straight-on angles of buildings, signs, and similar straight line subjects.

It is much more effective to shoot such subjects from one side or the other so that the lines form diagonals across the screen. Not only is this better composition, but it is more dramatic. Such a scene shot with a wide angle lens from a low camera vantage point will be especially effective.

The S curve is a compositional element that is as old as Art itself. From the most primitive cave pictographs down to the most modern advertising art, this line appears again and again. On the screen the S curve is no less effective, especially in long shots or landscape backgrounds. A winding river or road curve in the shape of an S will form a perfect compositional motif for a scene. Carrying the principle a bit further, the S curve can often be introduced into the design of interior sets. Remember that

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the eye tends to be led along this curve, so it is better to have the curve lead toward the focal point of action whenever possible. The S curve can also be used most effectively in the grouping of players within the scene—especially in mass ensemble shots. In such a case the arrangement should not be too precise or it will appear artificial on the screen.

In the more academic discussions of screen composition the term *juxtaposition* crops up repeatedly. Used in this sense it refers to two consecutive scenes differing in meaning, but similar in compositional form. For example, an effective transition between two sequences might be achieved by dissolving from a close-up of a spinning automobile wheel to a closeup of a spinning roulette wheel. In this case the similar compositional pattern provides an extra link between these two scenes. Juxtaposition tends to become arty if it is thrown into the script merely for effect. Its use should be restricted to instances in which it can definitely add to the value of a transition or montage.

Close-ups of faces present their own compositional problems on the screen. The easiest way to shoot them, of course, is to set up a straight camera angle with the face centered on the screen. Rather than relying on this undramatic approach, however, it is often better to frame the face to one side, letting another element of the scene balance the composition. If the face is portrayed as looking in a definite right or left direction more space should be left on the side towards which it is looking. Extreme close-ups, in which just a segment of the face appears, will be more effective if either the face or the camera is slightly tilted.

The matter of balance is as important on the screen as in any other type of

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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.

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composition, and it can be achieved by balancing players with other players or with static elements of the set itself. Very often, when these elements do not lend themselves well to balanced composition, masses of light or shadow can be used most effectively to complete the balance of the pattern.

We have spoken of juxtaposition as meaning a similarity in compositional pattern between consecutive scenes. Turning this principle around we come to the theory of opposing compositions in consecutive scenes, a device which can be quite dramatic. The drama is obvious when one visualizes two armies marching toward each other, and shot from opposite angles. Properly intercut there is a natural conflict between the two patterns of action. However, even static objects can be made to oppose each other through the proper choice of angles and cutting.

Since composition for the screen is a fluid thing, it is quite permissible (and often most effective) to change not only the compositional pattern but the image size within the scene. This is done either by moving the camera toward or away from the subject or allowing the subject to approach or move away from the camera. In this way, variety and dramatic emphasis can be achieved without the necessity of cutting—thus permitting a fluid continuity from one composition to the other.

The framing of scenes with foreground objects is not a new principle of screen composition, but it is a most effective device and one which is rarely used to fullest advantage by the cinematographer. Besides providing an extra compositional element with which to work, the foreground object ties the main subject more closely to its surroundings and also adds depth to the scene.

The wide-angle lens is the best friend of the cameraman who wishes to achieve more dramatic compositions. It is naturally a dramatic lens since its main characteristic is a foreshortening of the scene. Distances can be exaggerated as can the size and special relationships of various objects within the scene. Diagonal lines can be made to converge dramatically, and it is also possible to produce striking compositions in which a foreground object looms prominently before a significant subject in the background.

The choice of camera angle is most important in achieving forceful composition. The low angle (especially when shot with the wide-angle lens) tends to exaggerate the height of the subject, making it seem to loom into the composition. Thus it is especially effective in the dramatic or mystery type of film. In contrast, the high angle tends to minimize the size and importance of the

subject, giving the audience an emphatic sense of superiority as it looks down upon the scene.

Tilted camera angles definitely have their place in the modern motion picture, especially in montage sequences and sequences which subjectively duplicate the point of view of one of the players. However, like all unusual techniques, it is a device which can be easily misused, and the cameraman should guard against throwing in such weird angles unless they are properly motivated.

Composition for the screen is a technique unto itself. While an art background is a handy essential toward producing more effective visual patterns, it is not absolutely necessary. The 8mm. or 16mm. cameraman with a flair for screen presentation can learn much by observing composition within the professional product, by trying out various approaches to sequences in his own filming, and by leaving his mind open to original and experimental techniques of filming.

MOBILE GENERATOR

(Continued from Page 49)

design and construction of this new equipment.

So perfectly insulated is the trailer, it can operate close to the scene of shooting without danger of sound recording equipment picking up interference. Sound-proofing consists of 1/4" of 3M underseal, sprayed on; two inches of fibre glass; 5/8" plywood, and 1 1/4" perforated Celotex. The motor generator set is mounted on rubber pads to dampen vibration. The M.G. housing is so constructed it can be readily removed in event there is need to make adjustments or repairs.

Ample circulation of air cools the interior of this well-insulated motor room. A five horsepower motor driving a double inlet blower delivers 11,000 cubic feet per minute, draws outside air from each side of the trailer, forcing it up under each machine and thence to exhaust ports at the top and rear of the trailer. Two-inch Air-Maze filters cleanse the air at point of intake.

Safety to operating personnel was a paramount factor in the design and construction of the equipment. All doors are equipped with locks and all high-voltage compartment doors are interlocked with the control circuit in such a way that it is impossible to start the M.G. set if any doors are left open or unlocked. The set will automatically stop generating should any of the compartment doors be opened while the generator is running.

Proving that no matter where you are in the world—in the Arctic wastes or deep in the Belgian Congo—your copy of **AMERICAN CINEMATOGRAPHER** will always reach you, is a letter received recently from cinematographer Henry Goldstein, attached to the Information Service, Belgian Congo. He wrote:

"I'm on location taking shots in the jungle, some 20,000 feet of film and 800 stills—quite a job here in the hot weather. Yesterday I received the September issue of *American Cinematographer*. A native travelled all day to bring it to me. It is the most interesting of all magazines in the motion picture industry."

The motor generator set is designed for operation on alternating current of 2300, 4000, and 4600 volts and 50-60 cycles. The motor is reduced-voltage started, through a starting reactor, by means of high-voltage air contactors. This limits the inrush current to 200% of full load current. Starting time is 18 seconds at normal voltage.

Every modern method has been employed to insure protection of equipment. Thermal overload relays, connected in the control circuit and energized from current transformers connected in each of the six phase windings, protect the motor. Disney engineers explain that the advantage of using six current transformers is that the current remains equal in each phase group, regardless which of the three line voltages (2300, 4000, or 4600) is used in operating the motor. This eliminates necessity of having to change overload connections for operation on different voltages.

Each bearing on the M.G. set has a thermal relay, the contacts of which are connected to the safety control circuit and shuts the plant down in the event bearing temperatures reach the danger point. At the same time, a red warning light located on the control panel indicates which bearing is in danger.

The plant is equipped with five main fuses. These are used for phase reversal as well as equipment protection. The fuses are mechanically interlocked so only three can be closed at the same time. To insure correct rotation of the M.G. set, a reverse-phase relay was installed and connected in the control circuit so as to leave the control circuit inoperative unless the phase rotation is correct. Also, a ready-light located on the control panel indicates correct phase rotation.

The control circuit and the blower motor are fed from a special three-phase, air-cooled transformer with taps on the secondary and connected to selector relays which automatically select the proper tap to insure 230 volts for the control circuit and blower motor, regardless which high line voltage is used. The D.C. breaker is an electrically-operated air breaker with time delay and

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instantaneous overload trips, and cannot be closed until the M.G. set is up to normal speed. The hold-in coils on the larger contactors and breaker are operated on direct current, eliminating S.C. hum, and are fed from rectox units associated with the control circuit. All breakers, contactors and transformers are of the air type, eliminating the use of oil. Temperature detector coils are imbedded in the stationary windings of the two generators and motor, and are connected through selector switches to a temperature meter located on the control panel so the operator can read the temperature of the windings at all time.

The motor generating unit is entirely electrical controlled and all operations

are regulated from the control compartment. "Start" and "Stop" switches for the M.G. set, blower motor, and the "Open" and "Closed" switches for the D.C. breaker are mounted on front of the control panel with indicator lights associated with each switch. The control compartment is located inside the trailer housing, in the front end. There is ample accommodation for the operator inside the compartment, and he is thus able to control the huge generator protected from the weather and against the danger of contact with high voltages.

Disney engineers are agreed that the unit represents a notable advance in the factors of safety and efficiency in studio mobile generators. END.



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Columbia

• BURNETT GUFFEY, "One Way Out," with Glenn Ford, Broderick Crawford and Carl Benton Reid. Henry Levin, director.

Eagle-Lion

• W. HOWARD GREENE, "Deadfall," (LeMay-Templeton Prod.) with John Barrymore, Jr., Chill Wills, Lois Butler and Basil Ruysdael. Alan LeMay, director.

• LIONEL LINDON, "The Sun Sets At Dawn," (Sloan-Rathvon Prod.) with Sally Parr, Philip Shawn, Walter Reed and Lee Fredericks. Paul Sloane, director.

Lippert

• BENJAMIN KLINE, "Operation Haylift," with Tom Brown and Russell Hayden. William Berke, director.

M-G-M

• JOSEPH RUTTENBERG, "The Miniver sequel (In Color—shooting in England), with Greer Garson, Walter Pidgeon, John Hodiak and Cathy O'Donnell. Henry Potter, director.

• ROBERT SURTEES, "King Solomon's Mines," (Technicolor) (Shooting in Belgian Congo) with Deborah Kerr, Stuart Granger and Richard Carlson. Compton Bennet, director.

• ROBERT PLANCK, "Summer Stock," (Technicolor) with Judy Garland, Gene Kelly, Gloria DeHaven, Phil Silvers, and Eddie Bracken. Charles Walters, director.

• HARRY JACKSON, "Three Little Words," (Technicolor) with Fred Astair, Red Skelton, Vera Ellen, Arlene Dahl, and Keenan Wynn. Richard Thorpe, director.

• WILLIAM SKALL, "Kim," (Technicolor—Shooting in India) with Errol Flynn, Dean Stockwell and Paul Lukas. Victor Saville, director.

• WILLIAM SNYDER, "The Toast Of New Orleans," (Technicolor) with Kathryn Grayson, Mario Lanza, David Niven, James Mitchell. Norman Taurog, director.

• PAUL VOGEL, "Visa," with Hedy Lamarr, John Hodiak, James Whitmore and George Macready. Joseph Lewis, director.

• RAY JUNE, "Crisis," with Cary Grant, Jose Ferrer, Paula Raymond, Signe Hasso, Ramon Navarro, Antonio

Moreno. Richard Brooks, director.

• JOHN ALTON, "Father of the Bride," with Spencer Tracy, Joan Bennett, Elizabeth Taylor, Don Taylor, Billie Burke, and Leo G. Carroll. Vincent Minnelli, director.

Monogram

• HARRY NEUMANN, "Border Renegades," with Johnny Mac Brown. William Fox, director.

• WILLIAM SICKNER, "Square Dance Katy," with Vera Vague, Jimmie Davis, Phil Britto, Virginia Welles. Jean Yarbrough, director.

Paramount

• WILLIAM MELLOR, "A Place In The Sun," with Elizabeth Taylor, Montgomery Clift, and Shelly Winters. George Stevens, director.

• DANIEL FAPP, "Union Station," with William Holden, Barry Fitzgerald, Nancy Olson and Jan Sterling. Rudolph Mate, director.

R.K.O.

• HARRY STRADLING, "Edge of Doom," (Samuel Goldwyn Prod.) with Dana Andrews, Farley Granger, Joan Evans, Robert Keith, Paul Stewart, Adele Jergens, and Harold Vermilyea. Mark Robson, director.

• JOSEPH WALKER, "Come Share My Love," with Irene Dunne, Fred MacMurray, Andy Devine, William Demarest, Gigi Perreau and Natalie Wood. George Marshall, director.

• WINTON HOCH, "Jet Pilot," (Technicolor) with John Wayne, Janet Leigh, J. C. Flippen, Paul Fix and Richard Rober. Josef von Sternberg, director.

• HARRY WILD, "Sons Of The Musketeers," (Technicolor) with Cornel Wilde, Maureen O'Hara, Alan Hale, Jr., Nancy Gates. Lewis Allen, director.

• NICK MUSURACA, "White Rose For Julie," (Westwood Prod.) with Robert Mitchum and Faith Domergue. John Farrow, director.

• GUY ROE, "Code 3," with Charles McGraw, Adele Jergens, William Talman, Steve Brody and Douglas Fowley. Richard Fleischer, director.

20th Century-Fox

• ARTHUR E. ARLING, "My Blue Heaven," with Betty Grable, Dan Dailley, David Wayne and Jane Wyatt. Henry Koster, director.

• JOE MACDONALD, "Outbreak," with Richard Widmark, Paul Douglas, Barbara Bel Geddes. Elia Kazan, director.

• LESTER WHITE, "Dark Challenge," (Thor Prod.) with Mickey Rooney, Beverly Tyler and Pat O'Brien. Tay Garnett, director.

• MILTON KRASNER, "Rawhide," with Tyrone Power, Susan Hayward, Hugh Marlow, Dean Jagger and Edgar Buchanan. Henry Hathaway, director.

• JOSEPH LASHELLE, "Where The Sidewalk Ends," with Dana Andrews, Gene Tierney and Gary Merrill.

Universal-International

• MAURY GERTZMAN, "Death On A Side Street," with James Mason, Marta Toren, Dan Duryea, Rudolfo Acosta,

Margarito Luan, Emma Roldan. Hugo Fregonese, director.

• RUSSELL METTY, "Rose Queen," retitled "Peggy," (Technicolor) with Diana Lynn, Charles Coburn, Charlotte Greenwood, Barbara Lawrence, Charles Drake. Frederick de Cordova, director.

Warner Brothers

• KARL FREUND, "Bright Leaf," with Gary Cooper, Jack Carson, Luran Ball, Patricia Neal, Donald Crisp and Jeff Corey. Michael Curtiz, director.

• CARL GUTHRIE, "Storm Center," with Ginger Rogers, Ronald Reagan and Doris Day. Stuart Heisler, director.

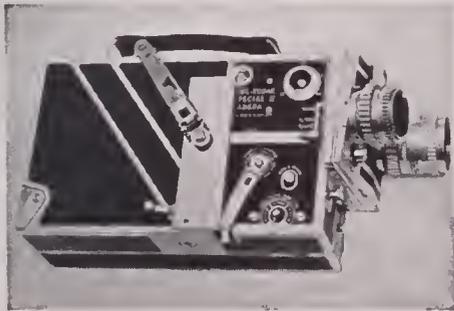
• PEVERELL MARLEY, "Pretty Baby," with Dennis Morgan, Zachary Scott, Betsy Drake and Edmund Gwenn. Bretna Windust, director.

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Interesting news for owners of Cine Kodak Special cameras is announcement of Joseph Yolo, 5968 Santa Monica Blvd., Hollywood, that effective Febru-



ary 1st, price of the Yolo Automatic Dissolve attachment for this camera will be reduced from \$54.00 to \$48.00. Device makes possible smooth, professional-like fades of equal length in making dissolves with camera.

New B&H Lenses for 16mm.

Bell & Howell Company announces a new series of seven lenses for 16mm. cameras, of which four are ready for delivery. Series is first with uniform-step magnification, extremely high correction, new focal lengths. T-Stops, and new design are other characteristics. Complete description and price of lenses may be had by writing the company at 7100 McCormick Rd., Chicago 45, Ill.

Splicer Heater

Splicers of Griswold, Bell & Howell, Ampro and the rubber-based Hollywood splicers may be converted to professional-type splicers by the addition of the Ariel Splicer Heater, easily attached to any of the above mentioned units. Heater

operates on 90 to 120 volts AC. Heat control is automatic. Price for Griswold model is \$8.75 and \$8.25 for others—prepaid. Product is sold and guaranteed by Ariel Visual Distributing Organization, 156 N. Larchmont Blvd., Los Angeles 4, Calif.

New 'Mart Message' Available

The Camera Mart, Inc., 70 W. 45th St., New York, announces the 1950 edition of its popular 'Mart Message' equipment catalogue ready for distribution. Copies are mailed free on request. The Camera Mart also points out it now has available for demonstration in its showrooms, the Hallen magnetic film recorders and the new Auricon 'Cine Voice' 16mm. sound camera.

Kinevox Amplifier-Mixer

Kinevox, Inc., 4000 Riverside Dr., Burbank, Calif., announce the addition to its line of magnetic recording equipment of a new 4-position amplifier-mixer as companion equipment to the Kinevox synchronous magnetic film recorder and the Kinevox film phonograph or dubber. Data sheet giving complete details may be had by writing to the manufacturer.

New Kodak Booklet

To assist photographers in keeping color films properly, both before and after exposure, Eastman Kodak Co. has just issued a new booklet, "Storage And Care Of Kodak Color Films." Free copies may be obtained by writing the Sales Service Division, Eastman Kodak Co., Rochester 4, N. Y.

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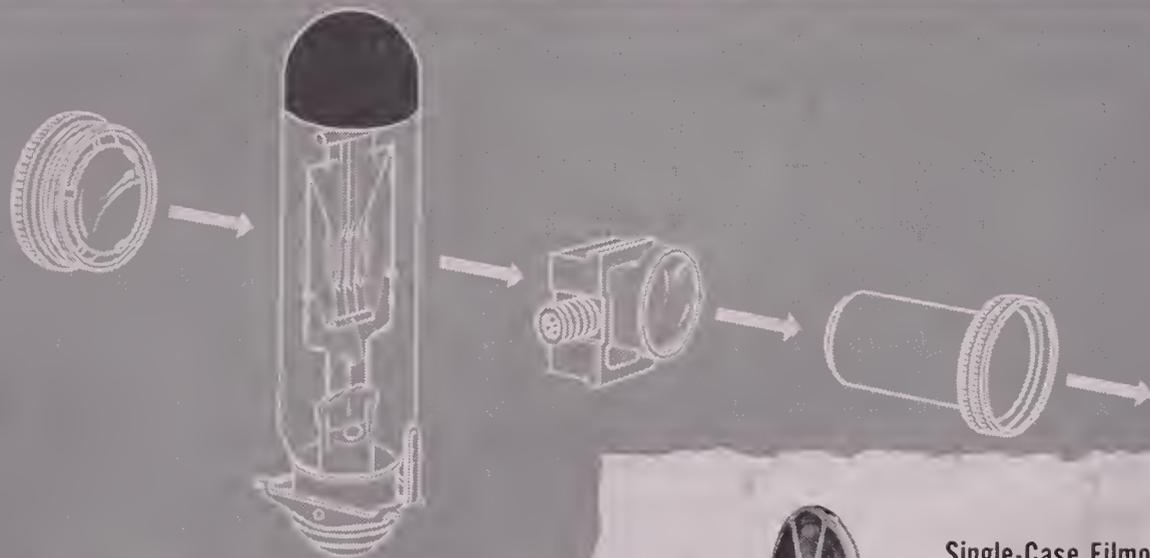
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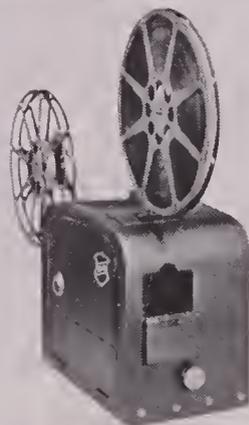
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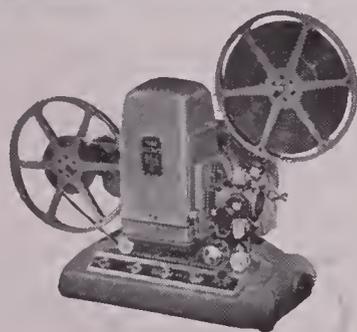
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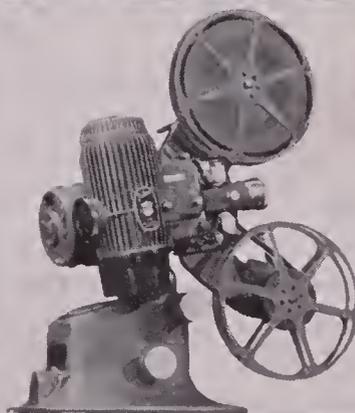
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**MARCH
1950**



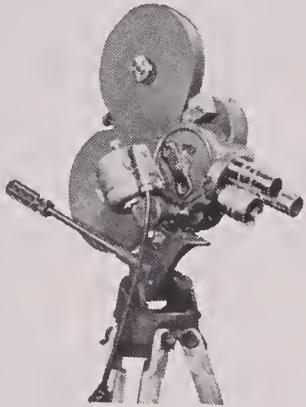
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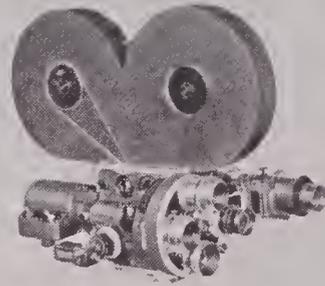


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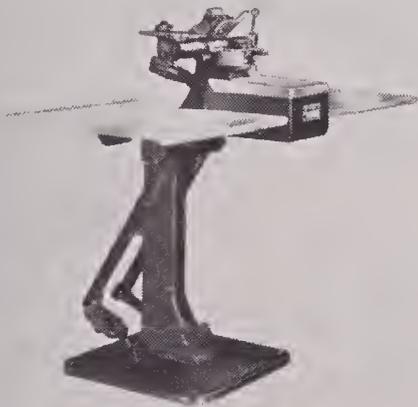




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MARCH • 1950

NO. 3

C O N T E N T S

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COVER PHOTO

ASSIGNMENT IN ITALY — Filming scenes on Isle of Capri for Paramount's "September Affair," is Victor Milner, A.S.C. (Black Shirt), standing ankle deep in Mediterranean surf with (from left to right) Skippy Sanford, assistant cameraman; Dewey Wrigley, A.S.C., operating camera; director William Dieterle; and producer Hal Wallis.

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 1950 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.



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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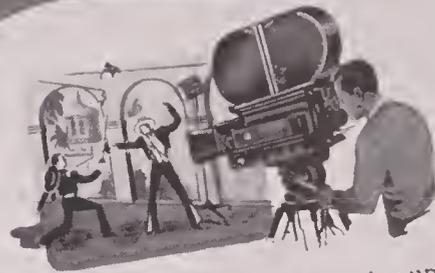
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Cinematographers Set Awards For Best Photography

A.S.C. to cite members for Best Picture Of The Month.

THE AMERICAN SOCIETY OF CINEMATOGRAPHERS, comprising most of the directors of photography of Hollywood, has established its own photographic awards program. Monthly, then annually, the Society will cite cinematographers for the best black and white and color photography of pictures in current release. Early in January, the A.S.C. set in motion its plans for the program which begins with monthly selections of The Picture Of The Month and culminates in the annual American Society of Cinematographers' award for the best photography of the year.

The awards program, which has been widely acclaimed by leaders in the motion picture industry, was first suggested by Charles G. Clarke, president of the A.S.C., as an important step in advancing the Society's aims for improving the art and science of cinematography and for bringing about closer relationship of the photography branch with other segments of the industry.

This program also included the addition of a projection room to the A.S.C. clubhouse, a project which was pushed to completion last summer and which was essential to the awards program. With its own projection facilities, the A.S.C. now regularly screens motion pictures for technical instruction of its members and as a means of studying and evaluating the camera work of others.

"The advancement of the art and science of cinematography, to which this Society is dedicated," said president Clarke, "implies an obligation to aid our directors of photography in exploring new cinematographic techniques and in advancing new and better means for improving photographic results on the screen. What better way to accomplish this than to provide both a means for film study and incentive to better one's camera work—all of which is encouraged by the A.S.C.'s awards program."

Films eligible for the monthly photographic awards are those released for exhibition in the Los Angeles area the month preceding selection. Films are nominated by secret ballot, the members naming their choice of two. The two pictures receiving most votes are then screened at the A.S.C. clubhouse the following week, with a final balloting at conclusion of the screening deciding the best film.

Of additional interest is that part of the awards program which provides for the men who directed the photography on the nominated pictures to precede the screenings with short talks on some of the technical problems encountered in the filming, with a brief question and answer period following.

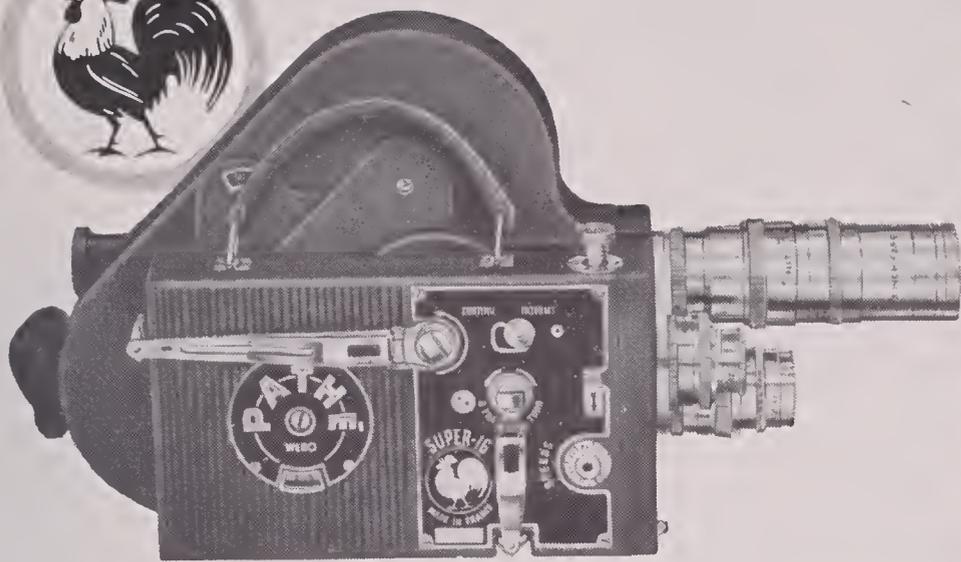
Thus, by seeing the better pictures in release at the clubhouse each month, and from listening to the men who filmed them discuss the technical problems encountered, directors of photography also will be better qualified to vote on the pictures nominated for Academy Awards each year; those who regularly attend the monthly awards screenings will have seen at least 24 of the best photographed pictures made during the year.

It is not the desire of the A.S.C. that its awards program conflict in any way with the annual Academy Awards. Most cinematographers agree that the A.S.C. program will benefit the Academy by keeping better informed the directors of photography who annually nominate, then vote on the motion pictures for photography "Oscars."

Also, the A.S.C. awards will serve to give those pictures released early each year a better break in the Academy voting. It has long been felt by the cameramen that by the time the industry starts nominating films for awards the latter part of the year, those pictures screened during January, February, March, etc., are forgotten. With the best photographed pictures for these months already established through the A.S.C. awards, they will be kept fresh in the memory of those nominating films for Academy Awards in December.

Voting of A.S.C. awards is confined to the membership of the American Society of Cinematographers and only by those members attending the monthly run-off screenings. Thus, voting will be done only by those who actually see the pictures, tending for a more accurate evaluation.

The monthly Picture Of The Month awards consist of certificates. The annual award will be a specially designed trophy on the order of the Academy's famed "Oscar," which will be presented to the winning-director of photography at ceremonies befitting the occasion, sometime in January. END.



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Hollywood Bulletin Board



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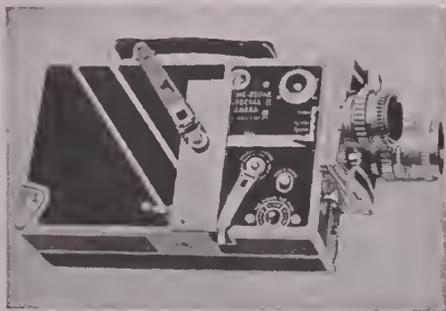
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TELEVISION continues to look to A.S.C. men to furnish technical assistance for its programs, both live and filmed. Several months ago, Gus Peterson, A.S.C. was engaged by CBS to supervise the lighting of the Ed Wynn TV show, and more recently has added the lighting of the forthcoming Allan Young show to his responsibilities. Last month, KECA acquired the services of Lew W. O'Connell, A.S.C., as lighting consultant on all its television shows. And in the department of filmed shows, Lee Garmes, A.S.C., will direct the photography of a new series of TV films to be made especially for Don Lee's television station, KTSN. At the Harold Roach Studio, Benjamin Kline, A.S.C., is currently shooting the first of a series of television films being produced under aegis of Bing Crosby Enterprises.

FRANK PLANER, A.S.C., who has been nominated this year for an Academy Award for his photography of "Champion," teed off a series of recorded broadcasts in German recently for Munich's Radio Center.

LEON SHAMROY, A.S.C., nominee for an "Oscar" for filming of "Prince Of Foxes," last month won a Look Award for photography of "12 o'Clock High."

SOL POLITO, A.S.C., is being felicitated by his many friends glad to know that he has been discharged from the hospital where he was confined for over a month from injuries sustained when his idling automobile started to roll, as he opened his garage, pinning him against the door.

CHARLES ROSHER, A.S.C., found a refreshing new assignment awaiting his return from his recent Caribbean vacation. In Hollywood only a few hours, MGM sent plane reservations for a hurried trip to the Hawaiian Islands to scout locations for that studio's forthcoming "Pagan Love Song," to star Esther Williams.

ROBERT SURTEES, A.S.C., returned to Hollywood last month from Africa, where he had been directing the photography on Metro-Goldwyn-Mayer's "King Solomon's Mines." Studio reportedly spent over \$1,000,000 in blocked funds during the five months' Technicolor shooting. Surtees resumed filming of the production at the studio February 20th.

RICARDO MARCELINO, A.S.C., last month completed the editing in Hollywood of the first color film produced in the Philippines. Photographed on Ansco Color by his son, film was shipped daily by air-express to Hollywood where it was processed by the Houston Corporation. Marcelino, working closely with Houston technicians, relayed camera instructions to his son after each batch of film was processed, and virtually directed the photography on the entire picture by cable! Reports indicate the film played to capacity audiences during its premiere showing in Manila.

COL. NATHAN LEVINSON'S sound department at Warner Brothers has developed a new type blimp that eliminates noise from projectors used in process photography. Blimp is a light-weight easily removable aluminum cover and was used for the first time in process shots for "Lightning Strikes Twice," which was photographed by Sid Hickox, A.S.C.

ACADEMY of Motion Picture Arts and Sciences has acquired for its library a valuable collection of films made by George Melies, French magician and motion picture producer, between 1903 and 1908. Melies, a skilled magician, used many unusual trick effects in producing the films. He wrote the stories, built his own sets, handled the camera and often played the star roles. The Academy plans to make prints and present a special program for Academy members.

A.S.C. MEMBERS have negotiations under way for a radio program which will feature various Hollywood directors of photography in dramatizations of their most interesting experiences. Test airing of sample scripts is scheduled for sometime next month.

TOM TUTWILER, A.S.C., shooting a series of films for the government in Alaska, reports that his special, temperature-conditioned Mitchell camera is performing "like a Swiss watch" despite one of the severest winters on record for that territory.

WILLIAM DIETERLE was guest of honor at the February meeting of the American Society of Cinematographers, and talked of his experiences in producing "Vol-

(Continued on Page 106)

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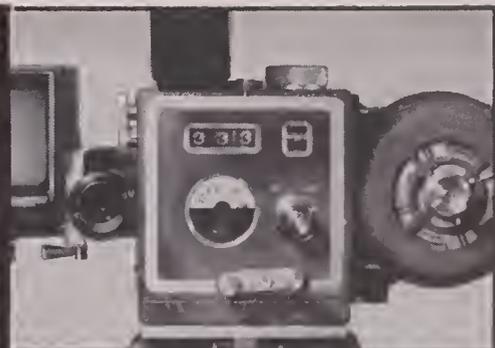
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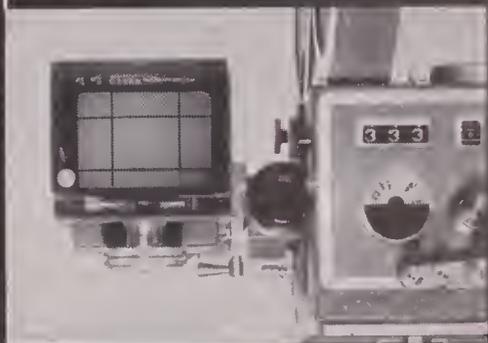
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MINIATURE of Temple which had to be destroyed and rebuilt three times in order to get a satisfactory "take." Some idea of its size — 1/3-scale — is indicated by Gordon Jennings, A.S.C., standing in center.



FRAME ENLARGEMENTS of the completed scene, showing the actors doubled in. Lower third is full-scale; middle third, part miniature and full-scale; and the top, all miniature—a fine example of precise special photographic effects work achieved by use of a new electronic camera control called a "repeater."

MATTS, MINIATURES AND METICULOUS CINEMATOGRAPHY

These were the cinematic techniques employed in producing the realistic Temple scenes for "Samon And Delilah."

By FREDERICK FOSTER

HAD CECIL DEMILLE made "Samson and Delilah" fifteen years ago, the massive Temple set, which is tumbled to earth by an enraged Samson would have been constructed out of doors and photographed in sunlight. However, today's greatly increased construction costs made erection of the Temple set in full-scale prohibitive; also, its destruction, called for in the script, posed special photographic problems as well as



Gordon Jennings, A.S.C.

problems of safety for cast and personnel.

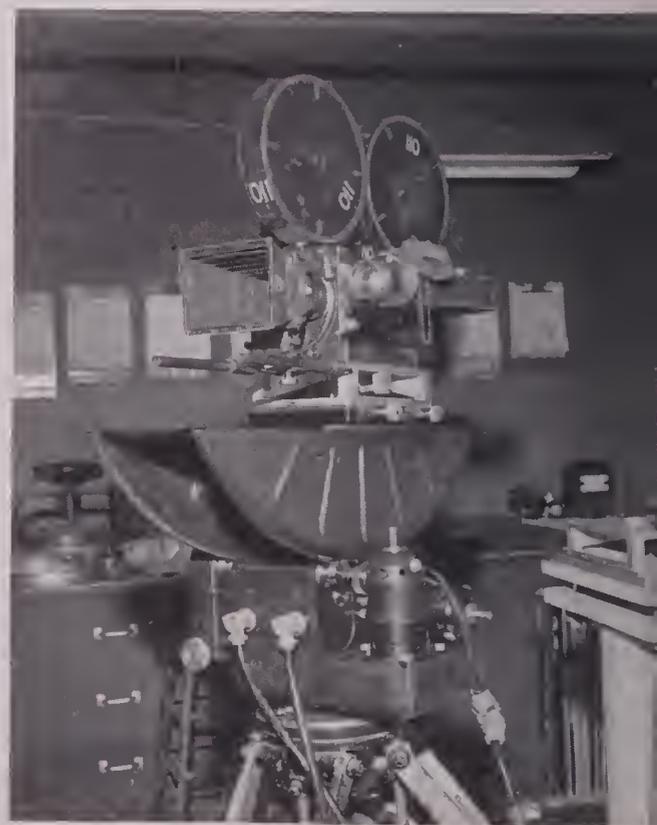
As it was, the Temple set was filmed indoors on a Paramount sound stage. The set was small by comparison with sets in earlier DeMille epics, such as "King Of

Kings." Yet on the screen it appears to surpass in size and scope any DeMillian sets of yesterday. The illusion is due to cinematographic magic contributed by Paramount Picture's special photographic effects department, headed by Gordon Jennings, A.S.C.

The principal photographic job on this picture, of course, was executed by director of photography George Barnes, A.S.C. Working in close cooperation with Barnes, Jennings—with his assistants Devereux Jennings and Paul Lerpae—handled the difficult problems that usually arise in epic productions of this kind where set costs must be kept to a minimum or where it is impossible to photograph the picture in natural settings.

Before describing how the opening Temple scene was filmed, it should be noted that its very effectiveness and realism are due in no small way to electronic apparatus developed earlier by Jennings

and G. L. Stancliff, Jr., and used in conjunction with the camera. Called a "repeater," this electronic device, coupled with a highly technical nodal point camera mount and activating a constant-focus photographing channel contrivance, makes it easy for Jennings and his trick experts to matt (or block out) unwanted backgrounds from each frame of film, and permit other images to be substituted



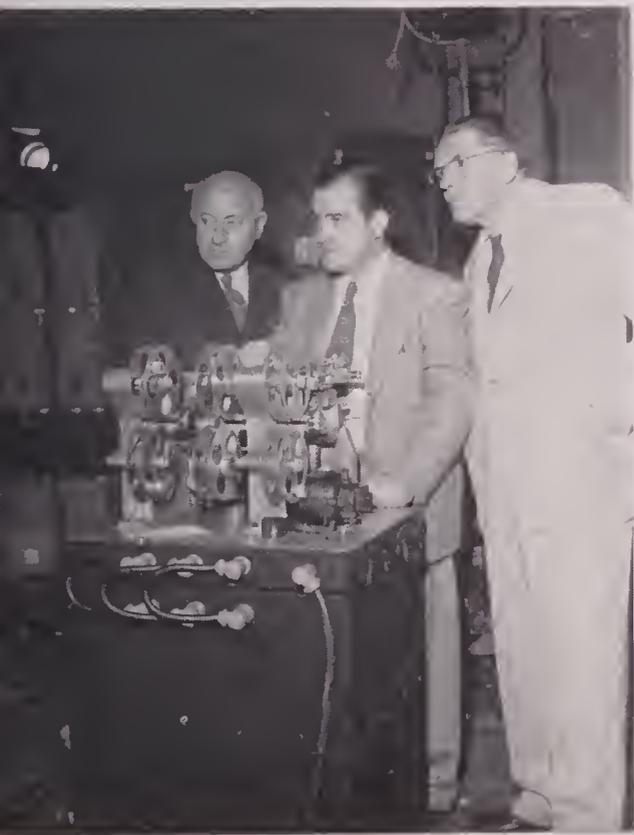
PARAMOUNT PICTURE'S special camera that works in conjunction with the recently developed electronic repeater, pictured at right, which films matt shots with infinite accuracy. Small Servo motors control tilt and panning.

or superimposed with infinite accuracy. Also, the "repeater"—by recording on a roll of film the movement pattern of the camera to which it is coupled—enables the camera to accurately repeat its action pattern (panning and tilting) when photographing action to be superimposed over the first.

By employing the repeater and the special camera used with it, Jennings was able virtually to build the impressive Temple set photographically through a series of separate takes and the multiple matt shot technique. The completed scene was a composite consisting of miniature and full scale sets in which live actors were used and doubled into miniature section of set. A comparison of the miniature set with the completed scene, as filmed by Jennings, may be seen in the photos at the top of opposite page.

The photo on the left is of the miniature, and some idea of its exact size is indicated by Gordon Jennings standing in the center, holding one of the dolls. Immediately opposite is a frame enlargement taken from the film, showing the scene as it appears in the picture. All of the people seen in this photo are live actors, doubled into the scene.

The major composite shots which make up this scene were all filmed with the same camera, from the same camera position, and with the camera under the control of the electronic repeater. There was no operator handling the camera at any time. This function was remote-controlled by the pre-recorded tracks



REPEATER, in foreground, guides camera movement in making multiple matt shots via recording on rolls of film. Watching repeater in action are (L to R) Cecil DeMille, G. L. Stancliff, Jr., co-developer of device, and Frank Butler.

running through the electronic repeater.

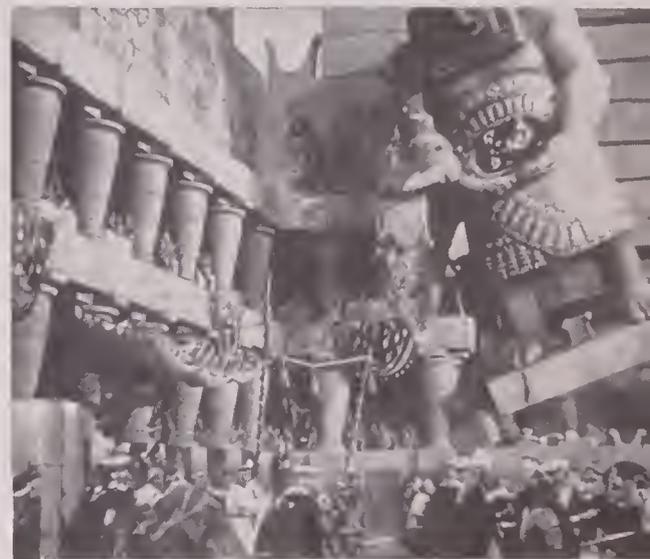
The scene is roughly divided into three sections (with no lines of demarcation evident, of course), viz.: the foreground and lower one-third, which is full-scale; the middle third, which is part full-scale and part miniature, and the top third, which is all miniature. For the lower third, a full-scale replica of the base and foreground of the Temple had to be built. Where live action was required in the middle third of the scene, the people were photographed against black velvet in a separate take and matt-printed into the scene. How well the multiple takes were wed into a composite scene is evident in the frame enlargements from the film sequence that appear on these pages.

Interesting is the fact that before this set was constructed, either in miniature or full scale, it was plotted in advance with aid of the camera. Jennings moved his special camera and repeater to the sound stage, and here, with director DeMille and his production associates and technicians, plotted on the bare stage floor the opening Temple scene and the closing climactic scenes of destruction of the Temple, with only set blueprints as a guide. Members of the technical staff substituted for actors in running through the principal action, under direction of Mr. DeMille, and thus Jennings was able to establish his camera positions.

After Mr. DeMille was satisfied with the rehearsed action, Jennings made a "dry run" of the scene, with the camera and repeater interlocked, for the purpose of making the repeater cue track to be used later when filming action on the completed set. Thus the pattern of camera action for all future major takes on this set was established, recorded on the repeater track, so that no matter how many times the camera was employed on the set in filming action for matt shots, it would match previously photographed footage precisely.

This made it possible for Jennings to shoot the lower third of the scene on the full scale set first, with the upper two-thirds masked off. For the middle third, he photographed the identical area of the corresponding miniature set which was matched up later with the lower third, in the optical printing department; but before this was done there were people to be added to the scene, and these were photographed in a separate take,

(Continued on Page 98)



PICTURES at right are frame enlargements from sequence in "Samson And Delilah," depicting spectacular destruction of Philistines' Temple. Scene is a composite shot, engineered by Gordon Jennings, A.S.C., and his staff, employing miniature and full-scale sets and multiple matt printing.



SIMPLICITY of dubbing magnetic film to picture track is demonstrated by Telefilm's sound engineer, Peter Gioga, to Jim Pinkham, company's ad head. Equipment shown is Kinevox.



RECORDING commentary for a two-reel industrial film at Telefilm's sound studio, using one of the Kinevox magnetic film recorders, which is part of that company's modern sound equipment.

Magnetic Recording Boon To Budget Film Production

New medium, rapidly being adopted by major studios, already is saving money for makers of television, industrial and low-budget feature films.

By **DON HARROLD**

Research and Development Engineer, Telefilm, Inc.

PRODUCERS of commercial motion pictures as well as those engaged in making films for television are constantly endeavoring to improve the overall quality of their product although handicapped, in many cases, by the limitations of a meager budget. This results in a continual search for new techniques and tools which to work.

One of the latest and most important developments in this direction has been the introduction of synchronous magnetic recording. This new medium allows considerable versatility in securing good quality lip-synchronous sound for master, or original, and has a number of advantages over direct optical recording on film. A large number of major productions are using this medium and more and more interest is being manifested by the smaller commercial and television producers.

Techniques will vary somewhat with different types of production but in all cases the advantages to be gained through the use of magnetic recording are the same. Generally speaking, these are as follows:

Sound takes can be played back immediately after recording and instant judgment made as to quality and correctness. This eliminates processing delay and, in many instances, costly retakes due to doubts where sound is concerned.

The extreme portability of location-type units is another characteristic of most synchronous magnetic systems now available. On productions where a maximum number of set-ups per day are required, the elimination of cumbersome sound equipment results in the saving of many man hours. The more popular magnetic recorders are generally composed of one or two units built into easy-to-

handle carrying cases. And since the recording stock consists of a magnetic emulsion on double perforated 16mm. or split 35mm. film, bulky film magazines and loading bags are eliminated. The total weight of magnetic equipment for location work will vary from 90 to 150 pounds.

In the case of producers using film service organizations for the technical assembly of their final picture, this new medium has much to offer in that the magnetic master may be re-recorded for any type of release. A typical example for a television short subject is as follows: sound takes are voice marked before each scene with the camera using slap sticks and slate as usual. The original picture and sound are then turned over to the film service organization where an optical sound track work print is re-recorded from the magnetic master. This is then cut to a picture work print and checked for perfect sync.

When this has been done, a printing sound track is re-recorded from the magnetic master and it is at this step that sound levels and equalization are corrected. The printing track is then matched to the track work print and made ready for duplicating with the original picture. The master can then be held as a safety with no deterioration of sound quality or can be erased and the stock used again. However at Telefilm we are preparing to transfer masters to synchronous acetate discs when it is deemed advisable to hold a recording for future use. This method is particularly advantageous in cases where a vast demand for prints causes sufficient wear

(Continued on Page 100)

The Men Who Light The Sets

Lighting of motion picture sets is the responsibility of the director of photography. His skill in using light enhances the glamour of stars and makes Hollywood's movies tops the world over.

By GORDON TAYLOR

LIGHTING MOTION PICTURE sets for photography today is an exacting science, which directors of photography have developed collectively through years of experience. When early motion pictures were made, sunlight and skylight were the only sources of illumination. The need for auxiliary lighting of uniform, controllable character made itself evident quite early and ultimately the carbon arc and incandescent lamps were introduced as lighting sources for motion picture photography.

The introduction of panchromatic film and new high wattage incandescent lamps, coinciding with the introduction of sound, brought about a major change in set illumination practice. The director of photography's desire for accurate control of light resulted in development of the condenser-type spotlight, diverging doors, spill rings, diffusers, special reflectors and finally the Fresnel-type lens. With this growth in equipment and technique of set lighting there also came into being, as a vital cog in the growing staff of cameraman's assistants, the man we know today as the "gaffer" or head electrician assigned to each production.

In the early days, the cameraman had little or no control of the light. He was obliged to wait until "the sun was just right" or to set up his camera according to the way the light was falling on the set or scene. Today, with most sets photographed indoors on sound stages, the light is placed by the gaffer and his crew according to the director of photography's needs.

The gaffer is sometimes erroneously credited with lighting the sets. He and his crew do the physical work of handling and setting up the various lighting units, but placement of the lights is directed by the director of photography following his survey of the set and his decision as to its lighting requirements.

This direction of light placement follows a thorough study of the script and consultation with the picture director and production heads by the director of photography. The usual procedure is for the director of photography, after reading the script, to join with the director in a discussion of the photography of the picture. From this discussion he usually develops the basic lighting pattern he expects to use.

Subsequently he sits in on set meetings and budget meetings and the result of these discussions further molds his lighting plans. If sharp economy is a factor, then lighting will be kept simple; but if the producer values the best in photography as an asset to the production, then the director of photography



USING A METER to check intensity of light falling on players, director of photography Arthur Arling, A.S.C., calls to electrician for change in position of an overhead lamp. All set lighting is similarly checked by the director of photography before the camera rolls.

usually spares nothing in the lighting in an effort to produce the best photographic result.

When the director of photography is ready to light the set, he then calls in his gaffer and outlines his lighting plans. Usually, as the production progresses, he will go over the set on which the company will work next and give the gaffer instructions for "roughing in" the basic lighting. Thus when the company is ready to move over to that set, there remains only a few additional light units to be placed or perhaps minor changes to be made in placement of lamps already on the set.

In the preliminary arrangement of lighting equipment the gaffer, under the direction of the director of photography, sets in place the floor and overhead units. The director of photography establishes the "key light," which is directional illumination measured near the face of the principal character, and then rearranges, reduces, or intensifies the illumination falling upon other areas to achieve the desired balance. "Balance" is largely an artistic or dramatic rather than a strictly technical effect.

Although exposure meters are in common use by cinematographers, the gaffer ordinarily does not use one. His problem is to arrange the various pieces of equipment, such as lamps, diffusers, dimmers, etc., so that the director of photography may establish a "balance" in a minimum of time. The placement of this equipment depends upon the experience of the gaffer, his knowledge of the desires of the director of photography, and the advance conferences that take place between them before the set is rigged.

Color photography is more exacting than black and white photography. In color photography, variation in light quality

(Continued on Page 102)

Oscar Nominees For 1949

Directors of photography of five color and five black and white films nominated by Academy for Achievement Awards.

By LEIGH ALLEN

ELEVEN directors of photography—all members of the American Society of Cinematographers—have been nominated by members of the Society and directors of photography in the Hollywood studios as contenders for Academy Awards for achievement in motion picture photography for 1949. Five of them directed the filming of five black and white feature productions and six were engaged in filming five productions in Technicolor as follows:

BLACK AND WHITE

Joseph LaShelle, "Come To The Stable," (20th Century-Fox).

Frank Planer, "Champion," (Screen Plays-United Artists).

Leon Shamroy, "Prince of Foxes," (20th Century-Fox).

Leo Tover, "The Heiress," (Paramount).

Paul C. Vogel, "Battleground," (Metro-Goldwyn-Mayer).

COLOR

Charles G. Clarke, "Sand," (20th Century-Fox).

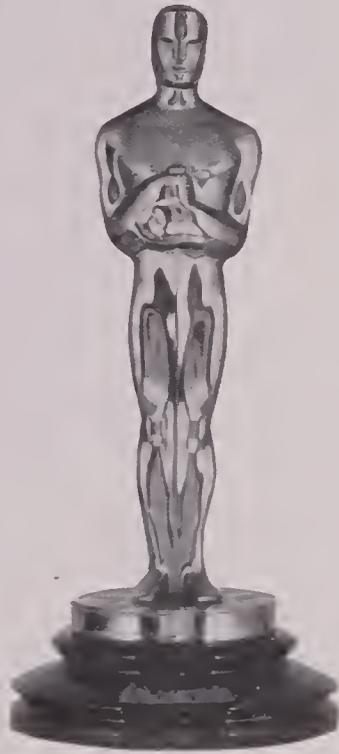
Winton Hoch, "She Wore A Yellow Ribbon," (Argosy-R.K.O.).

Robert Planck and Charles Schoenbaum, "Little Women," (Metro-Goldwyn-Mayer).

William Snyder, "Jolson Sings Again," (Columbia).

Harry Stradling, "Barkleys of Broadway," (Metro-Goldwyn-Mayer).

Early this year, the titles of more than fifty black and white and color productions released during 1949, were submitted to the Academy of Motion Picture Arts and Sciences for consideration. These in turn were submitted on a preliminary ballot to each of the industry's directors of photography. Result of the initial balloting narrowed the list of probable contenders down to ten black and white and ten color films. After special screenings of each of the 20 films, a second balloting produced the list of ten nominees above.



1949

NOMINEES

FOR CINEMATOGRAPHY AWARDS

BLACK AND WHITE

Joseph La Shelle

Frank Planer

Leon Shamroy

Leo Tover

Paul C. Vogel

COLOR

Charles G. Clarke

Winton Hoch

Robert Planck

Charles Schoenbaum

William Snyder

Harry Stradling



These films will now be re-screened for members of the Academy who will then vote to select the best black and white and best color production for the Cinematographic Awards—in other words, the gold Oscar statuettes. Only members of the Academy of Motion Picture Arts and Sciences participate in the final voting.

The winners will be announced along with those in other branches of the motion picture industry at the gala annual Academy Awards presentation ceremonies, which will be held the night of March 23rd, at the Pantages Theatre in Hollywood.

The selection of films for the annual Cinematographic Awards begins each year with the directors of photography themselves. Shortly after the first of the year each director of photography is invited to submit to the Academy for consideration the name of one black and white production on which he has received single or joint screen credit—also name of one color production, if any, bearing similar credit—and these are included on the preliminary ballot previously mentioned and which is then mailed to the cinematographers for a primary voting.

Each director of photography indicates his choice of the ten best black and white and ten best color productions on the ballot and sends it to the Academy. The ten films receiving the most votes in each class are then placed on a secondary ballot, given a special screening by the Academy for the purpose of giving all directors of photography opportunity to re-view the films, and are then voted on again by the directors of photography to select the five nominees in each class.

Of the eleven men whose cinematographic handiwork is nominated for 1949 Awards, four have previously won Oscars for cinematography. Leon Shamroy has three Awards to his credit: "Black Swan," 1942; "Wilson," 1944; and "Leave Her To Heaven," 1945. Joseph LaShelle won an Award in 1944 for his Technicolor photography of

(Continued on Page 98)

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Something New In Color Temperature Calculators

New device, when attached to a General Electric type DW Exposure meter, provides instrument for measuring both color temperature and intensity of light.

By RALPH LAWTON

THE USE OF color films, especially for motion pictures, requires that the light source used in exposing them be carefully measured not only for intensity but for color temperature as well. As a result, there have been developed and placed on the market by several manufacturers, a number of color temperature meters.

Designed to make the measuring of color temperature of light as simple as using an exposure meter, most of the color meters also indicate instantly the correction filter that should be used in a given light in order to properly balance it for the type of color film used.

Some of these meters already have been described in earlier issues of AMERICAN CINEMATOGRAPHER. This month we are reporting on one of the newest of color temperature calculators, which the manufacturer calls a "color attachment," rather than a meter—probably because it is not entirely a metering device in itself but forms a complete color temperature meter when used with any type "DW" General Electric exposure meter. We refer to the Harrison Color Attachment shown in the photo below.

Hartley Harrison of Harrison & Harrison, well-known



INTO THE rectangular opening in center of Harrison Color Attachment the G. E. exposure meter is snapped in place to provide a combination instrument that gives both color temperature and light intensity readings for color photography. Conversion tables at top give data on CC filters to use for color correction.

optical engineers of Hollywood, designed this color attachment which snaps onto the G.E. meter in a jiffy and immediately makes a composite instrument that functions both as a color temperature meter and an exposure meter. In other words, with the attachment in place, the meter may be used for both color temperature reading and exposure calculation.

Naturally, it is photo-electric in its measurement of color temperature, operating off the G.E. meter cell. What it specifically does is to measure the color of light for color balance and the amount or intensity of the light for exposure at the same time and from the same position. The exposure readings are of incident light—direct sunlight, direct skylight or direct artificial light.

The Harrison Attachment comprises an all-metal case with an orifice in one side that takes the General Electric meter with its hood removed. The meter snaps in place and may easily be removed for normal use. There is a similar opening on the opposite side which is covered with a panel of ground glass. Within the attachment are an adjustable shutter and two graduated color step-wedges—one red and one blue. At the bottom of the meter is a plunger for bringing the step-wedges into place before the meter cell, and a revolving disc for setting the shutter at the proper opening.

To take a color temperature reading of the prevailing light as it falls on subject or scene, the meter is read—not from the camera position—but from the approximate position the players occupy in the scene. The attachment is pointed directly at the camera lens. The plunger (activating the step-wedge) is depressed; then by moving the shutter control disk, the meter needle is set at 10 on the meter scale. When the plunger is released, the meter needle will move to the right, indicating the color temperature.

Thus, for example, if the G.E. meter needle swings to 35, a glance at the conversion table (extending from top of Attachment) would indicate that a C $\frac{1}{2}$ (Harrison & Harrison) color correction filter should be placed before the camera lens to balance the light for daylight color films. If photoflood color film is used, then a C $\frac{1}{4}$ filter would be required. The conversion table gives filter data for three types of color emulsions: daylight color films; photoflood color films, and tungsten color films—embracing all present movie and still camera color films.

The conversion table embossed on a panel of metal, which extends from top of the Attachment, shows a complete photographic range for any light condition. It indicates the conversion of foot-candles to color temperature from 2800 to 30,000 degrees Kelvin, which is the range of the Attachment.

The conversion table provides a dual scale, so that the meter needle may be pre-set at 10, representing 1,000 foot candles

(Continued on Page 99)

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The head, made of Dow Metal magnesium, weighs but 5 1/2 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.

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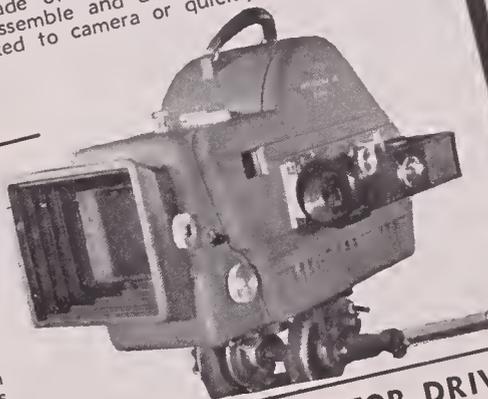
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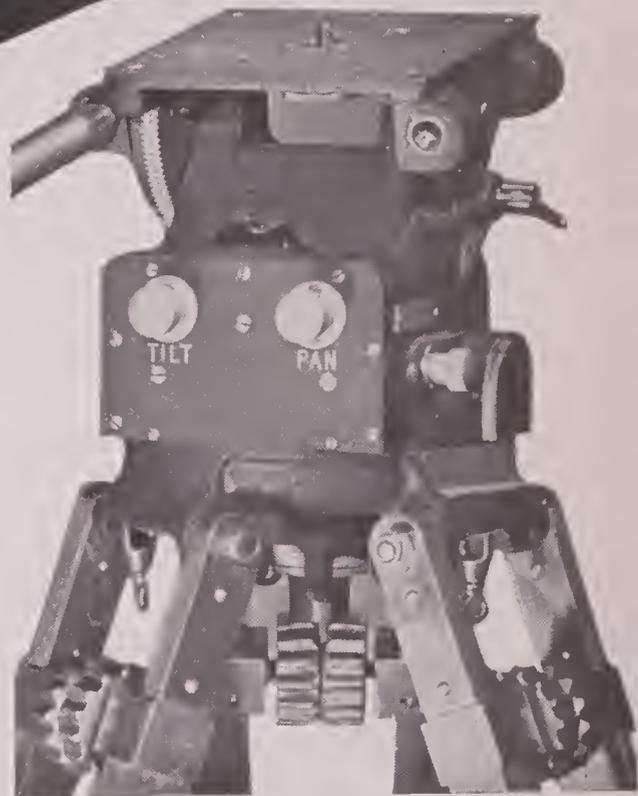
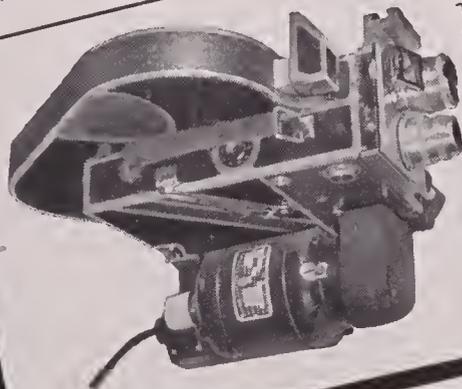
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Making a three-shot sequence of a simple home movie of family activities. Heavy dotted lines indicate long, or opening-shot composition. With camera set up at B, a closeup is made of the mother. Then a reverse closeup shot is made of child from position C. All three takes are of the same action but the variety in camera angles increases pictorial interest—requires little more film than a single long shot.

How To Build Basic Movie Sequences

The mechanics of shooting scenes for continuity.

By CHARLES LORING

MAKING REALLY interesting 8mm. or 16mm. movies is not nearly so much a matter of camera as the fellow behind the camera. What he puts into his photography in terms of planning, ingenuity and pictorial artistry depends on how much he has learned during those primary sessions spent with his camera shooting family and friends, vacation trips and similar fare. If, after months—or years—of filming such subjects, the movie amateur still turns out “snapshot” movies without continuity or sequence, then it’s time someone tapped him on the shoulder and said, “Look, Bud, why don’t you try putting a little professional polish on your movies?”

And how does he go about learning how to apply this expert “polish?” Well, he can take instruction from a reliable

photographic school, or he can steer a course of concentrated home study on movie making, reading photographic magazines and books devoted to the subject. The latter is less costly and will produce remarkable results. If he’s really interested in acquiring the knack for making movies that tell interesting stories, then this may be the place to begin—by finishing reading this article in which we shall explain some of the fundamentals necessary to building basic movie sequences.

First, in order that certain salient movie making terms subsequently used here shall be clear in the mind of the reader, we define them as follows: *Continuity* implies logical flow of one element into the other—the dovetailing of one scene with the next and subsequent

scenes. The *Scene*—the basic unit of movie construction—is the individual shot or “take” you make each time you start and stop the camera. A *Sequence* consists of a series of related scenes photographed and edited to produce a unified idea—a story.

Building a basic sequence is not difficult if we draw a parallel between it and the function of the human eye in absorbing a new situation. When we enter such a situation it is quite natural that our eyes, first wander over the entire set-up, studying the overall pattern without paying attention to fine detail. Once we have thus oriented ourselves, we naturally select what appears to be the most important element of the situation and narrow our vision down to concentrate upon it. If there is one particular part of that element that is especially important or striking, we narrow our vision still more until we are concentrating upon a very small but important segment of the overall pattern. Having satisfied our curiosity thus, we look around once more to take in details of the general situation.

In terms of screen mechanics this procedure almost automatically translates itself into specific shots or angles. Thus, the overall glance corresponds to a long shot; the selection of the most important element parallels the medium shot; whereas the narrowing down of attention to select one small segment of that element corresponds to the closeup. The final glance about to re-establish the situation usually evolves into a shot somewhere between a long shot and a medium shot.

The bewildered novice invariably asks the question: “How far away from the subject do you have to be in order to get a long shot?”—or perhaps: “Just how close to the subject are you when filming a closeup?” There can be no truly accurate answer to either of these questions, because all of the terms involved are purely *relative*. To illustrate this point, may we observe that a long shot of Boulder Dam, for example, would be vastly different in set-up from a long shot of a bee gathering honey. One might involve miles and the other inches between camera and subject—and yet each, relatively speaking, would be a valid long shot of its respective subject.

In defining our shots, therefore, we can only speak in terms of function rather than sizes or distances. Purpose of the long shot is to acquaint the viewer with the overall situation and to provide a spacial and atmospheric context for the closer scenes which are to follow. The

(Continued on Page 96)



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Better Movies Through Editing

As in professional film production, there is more to making movies than simply photographing them. Editing is an equally important phase—and the most fascinating.

By JOHN FORBES

YOUR MOVIES are never completely ready for screen presentation, as they come from the processing laboratory. Oh, sure—you probably screen them that way, several times. But what you do with them next determines whether you are a real dyed in the wool cine amateur, getting the most out of your hobby—a movie maker with a future—or another indifferent movie “snapshooter” who never really gets complete satisfaction from making movies because he neglects the important part of it—editing.

Hollywood studios spend as much time editing their pictures as they do shooting them. But far too few amateurs do this. Many of them do not yet realize that the editing and “polishing” stage is highly essential to making 8mm. and 16mm. movies with lasting screen appeal. Take any one of the national amateur movie contest winners—each will testify to endless hours of viewing and reviewing his films, cutting here, adding footage there

and rearranging scenes to produce the best pictorial and continuity appeal. And invariably each will admit that putting the picture together at the editing table was the most fascinating part of its making.

You see, in editing you are dealing with something concrete, which is the reason why you'll find greater interest in this phase of making movies. You may have taken great pains to insure good photographic results in filming each scene, but you won't be sure it came out the way you wanted it until you get the film back from the processor. But with this film, no matter what the photographic result, it is possible for you to make of it something far exceeding your original plans through careful and inspired editing.

Some cine amateurs never get started with editing because they lack the equipment. However, this needn't be a problem beyond acquiring a splicer and a

pair of rewinds. Of course, the easy way to do it is to purchase a motion viewer which enables you to inspect your film in motion as you run it between the rewinds; but in the beginning you can use your projector for this. Mount it on your editing table and project your films upon a white card set up at the far end of the table. In this way you can run your films several times and study them for cutting without having to resort to more tedious inspection using a small magnifying glass. Using a grease pencil, you can mark your films, too, as they pass through the projector, thus indicating where to make cuts, deletions, or insert a title.

But regardless of the method to be followed, the first step is to decide what you are going to do with the film and how you are going to do it. This means projecting all the film and studying it, familiarizing yourself with each scene. Let us suppose, for example, you have a dozen rolls of Kodachrome shot on your vacation. That's twelve hundred feet of 16mm. film, and you should know from the very beginning that not all of it will wind up in your finally edited picture—nor should it. If you are an average amateur, you'll not cut it down much more than two or three hundred feet; but an expert film editor would probably make an interesting, rapidly moving narrative out of it using not more than 400 to 600 feet. Of course, as we said before, this is cited as an example; a great deal would naturally depend on the subject matter, whether there are ample long, medium and close shots for intercutting, and finally, how much of the footage was correctly exposed and therefore justifies consideration at all.

So with the dozen rolls before you, you screen them one by one and make brief notes on a pad of paper, as a guide to breaking down the rolls into individual scenes. You may already have your script prepared; if not, the next step is to prepare a sketchy outline of how you intend to put the picture together to tell a story. In breaking down the rolls (cutting the individual shots apart) don't try to trim



FIRST STEP in editing is to view and study each scene with an eye to editing it to best advantage pictorially and for continuity. Begin by screening your film or looking at it with a motion-viewer, making notes as a guide to cutting and editing, and for titles.

scenes nor delete excess frames or leader strips—except, of course, under- or over-exposed scenes that can't be used. These can be discarded at once, leaving less footage to handle and more space on your reels. (You see, already your overall footage is beginning to diminish!)

Keeping the individual clips in order, ready for splicing, now becomes your immediate problem. In studio cutting rooms, a large cloth basket, similar to a fabric clothes hamper, is provided into which the film strips are run and the ends, with identifying marks, clipped to edge of the basket near the top. You can rig up a similar gadget, using a pillow case and a wire loop. The fabric bag keeps the film off the floor, makes it unnecessary to wind each strip into an individual roll (which sometimes results in scratching through careless cinching) and besides protecting the film generally from damage, enables you to pick up a scene for splicing with the least trouble. A simple means of identifying each film strip is to use spring clothespins, numbered with ink, to clip the film to edge of bag. Identifying data is marked on a scratch pad opposite corresponding numbers.

If your continuity plan is indefinite, its best not to splice your various scenes together as you arrange them in order on the reel the first time, but use bits of scotch tape (applied to the base side). Small, round paper clips are sometimes used for this also, but, in careless hands, they may result in scratching the film. Once your film has been put together by this method, you can go over it to make sure every scene is in order, according to script, and that none has been excluded or forgotten. This done, you may then proceed with splicing—but do not attempt any critical, down-to-the-final-frame cutting at this stage. Better wait until you see your first "rough cut" on the screen.

Now comes the most interesting part of editing. You are now well on the way to making a real motion picture out of that footage that only yesterday was a jumbled array of film rolls. Now it is taking shape—assuming continuity, and having more pictorial appeal on the screen.

If you were careful in the filming, the scene lengths may be just as you want them; and there are closeups for emphasis, so essential for good tempo in cutting. Obviously, only by seeing your material screened would it be possible to give pointers on its cutting; but generally speaking, carefully match your action between long, medium and closeups. Don't keep a scene on the screen longer than is absolutely essential, in spite of the fact your color film cost

(Continued on Page 100)

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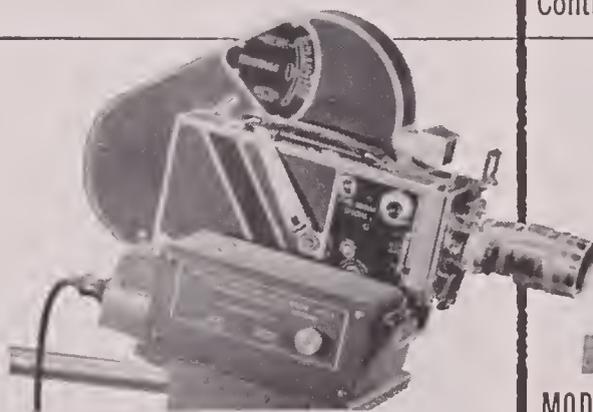
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Problems Of Producing A Television Newsreel

By JOHN SANDSTONE

Courtesy, International Projectionist

WHILE QUALITY IS by no means neglected, producing a daily newsreel for one-shot airings means amazingly close deadlines and pressures never experienced by theatrical newsreel people. Every operation, from camera work through editing and writing, all the way to distribution, must be performed at top speed.

The pressure is by no means eased when the film is finally delivered to the TV outlet: transportation slowdowns or the press of late news may have delayed delivery until a minute or two before program time.

One familiar with film processing problems—cutting, writing, editing, and shipping film in quantity—will appreciate the job involved in producing a daily newsreel. Advance and holdover stories are unknown. Each day represents a complete production cycle, starting with out-of-town and foreign stories picked up at the airport early in the morning, and local stories shot late the previous day. Complicated by stories arriving during the day, the job of putting together a newsreel goes on right up to the lab deadline. By nightfall a 10-minute reel is ready for telecast. Next day the same routine is repeated.

Illustrative of the high-speed coverage attained was a recent assignment to Roosevelt, N.J. A camera crew left our New York office at 1 p.m., travelled 70 miles to Jersey, spent 30 minutes in shooting 400 feet of film, returned to the office—and at 7 p.m. that evening the cut and edited story was on the air.

A statistical analysis of the handling of such a story is of interest at this point. Research for the average 150-foot story (35mm. film) requires not more than 45 minutes; while most stories are researched in considerably less than 30 minutes—made possible by an extensive reference library and a highly skilled staff.

Research work is done while the film is in the lab being processed. Film developing time is 1 hour, 28 minutes; cutting and editing an 11½-minute silent story requires 22 minutes. A comparable story with sound is cut within 40 minutes. The finished story is then spotted on a viewer by an assigned writer, and 45 minutes later the script is ready.

The changes in standard procedure which make this speed possible are worth

recounting. For more than two years none of our editors has seen a work print on a news story: there is never enough time to make one. Moviolas are used only for the sound track; but for our editors these are not fast enough for picture checking at the speed they have to work.

Original negative is merely run through a viewer, and after cutting is sometimes not even printed, going out to the TV station before the patches are quite dry. When this happens the TV engineers reverse the negative to positive electronically in the transmitter, and TV viewers see an ordinary black-and-white image.

Telenews uses Wall newsreel cameras, redesigned by us, to shoot in sync, thus reducing substantially the time needed for cutting stories, as the sound and the picture are always in sync.

One of the greatest obstacles to speed in our operations is transportation, with regard to both incoming film and outgoing finished reels. Stories arrive daily by air from every part of the world. Special arrangements with airlines, airports and customs authorities expedite these shipments, and motorcycle messengers are kept busy around the clock touring New York's airports.

During the World's Series we faced the problem of just plain mass. From two to three thousand feet of film per game, shot by as many as five different cameras, had to be transported, edited and recorded in time to be on the air on the evening of the game. The film (35mm.) had to be cut to about 200 feet in length and then reduced to 16mm. width, as many TV stations have only the latter gauge equipment.

To assist the lab people in such cases, the exposed film magazines were taken direct from the cameras and rushed to the lab by motorcycle at the end of the second, fifth and seventh innings. This prevented an otherwise huge pileup of film at the end of the game, since the sections were handled steadily through the afternoon as soon as they arrived. Thus the lab people were able to work on innings one through five while the game still was in progress.

Heart Action Studied Through X-Ray Movies

Development of X-ray movies for use in studying and diagnosing heart disease is announced by the University of Rochester. An X-ray motion-picture camera was developed to photograph flow of blood, treated with an injection of opaque dye, through the heart and its vessels, with the possibility of showing up diseases. It was believed this was the first use of X-ray movies in heart diseases diagnosis.

The disclosure, made as the first newsreel on X-ray movies by Paramount News, was released in movie theaters throughout the country.



NO GRASS SKIRTS HERE! Hawaiian girls pose in formal dress for Ted Phillips, shooting a travelogue on Hawaii for Burton Holmes. Phillips, Holmes' ace cameraman, has photographed more than 10 of the renowned lecturer's travel films—all in 16mm. Kodachrome—is now enroute to the Bahamas to start the eleventh. Ted, regarded one of the best 16mm. color filmers in the business, got his start shooting 8mm. movies.

Amateur Movies Televised Weekly From Hollywood

THE BEST FILMS produced by the country's leading amateur cameramen are being featured on Times-CBS Television station, KTTV, in Hollywood on alternate Wednesday nights from 9:00 to 9:30 p.m. The program is called "Hollywood Premiere" and any 16mm. amateur film is eligible for consideration for screening. Prizes are awarded each film televised, and the maker interviewed.

Program is under the direction of Andy Potter, winner of many national amateur film awards and who is recognized as one of the top amateurs in the country. Films selected for a "Hollywood Premiere" on Television along with their producers will be introduced by Joan Nelson who has been starred in many of Potter's own films and who is a home movie hobbyist in her own right.

Amateur filers desiring to submit films for "Hollywood Premiere" should write for entry blanks to "Hollywood Premiere," KTTV, 1025 N. Highland Avenue, Hollywood 28, California.

Golden Globe Award To Frank Planer For 'Champion'

Frank Planer, A.S.C., the night of February 23, received the Hollywood Foreign Correspondents' Association's "Golden Globe" award for best cinematography of the year for his filming of the Stanley Kramer production, "Champion." Planer also may take home an "Oscar" for the same picture the night Academy Awards are passed out.

Fitzpatrick Using Magnetic Sound For Travel Films

James A. Fitzpatrick, famed producer of travel films, for M.G.M., is traveling overseas to produce a new series in color for that studio. Where his previous travelogues have featured post-recorded narration exclusively, new series of films will have some on-the-scene sound and dialogue. For this, Fitzpatrick is using light-weight, portable Kinevox magnetic film recording equipment.

New Gevaert Sound Film

Scheduled for early demonstration to technicians in Hollywood is a newly-developed sound recording film being marketed by Gevaert Company in Europe. A. J. Van Gestle, export manager of the Belgian company, said the new film combines brilliant gradation, very high speed and finer grain than most films of this type, which results in greater resolving power.

New Eastman Color Film Tested By Hollywood Studios And Film Labs

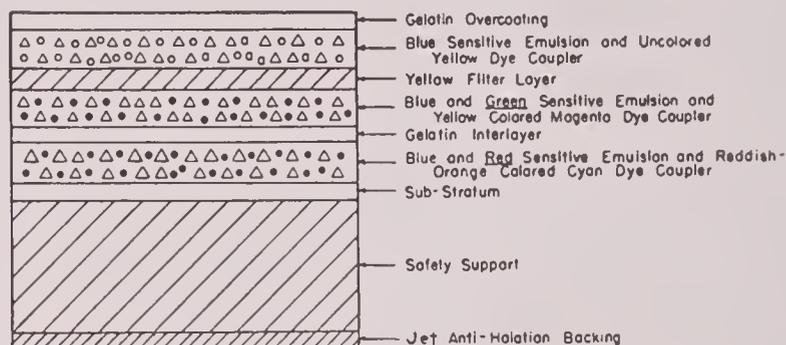
Medium expected ready soon in quantity for general use.

STEPS TAKEN BY Eastman Kodak Company to make available by June quantity production of its new single-negative single-positive color film, has many motion picture studios drastically revising future production schedules in anticipation of early use of the new color stock. Film will enable them to turn out dailies and release prints in their own labs.

In process of development at Rochester

to produce a separate negative dye image in each layer. Two of the dye couplers are themselves colored. This color is discharged during development in proportion to the development of the emulsion. The remaining colored couplers serve as automatic color correcting masks to aid in obtaining good color reproduction when the color negative is printed on the companion product, Eastman Color

Cross Section of Film



for several years, actual working footage was not made available to Hollywood until several months ago when, under guidance of Eastman technical men, the new color film was given tests at several studios. Immediate reaction was extremely favorable and Eastman continued to perfect the film and at the same time gear its plant facilities to start full-scale production this year.

The test footage, which was shot at 20th Century-Fox, Columbia Pictures and by Cinecolor, was screened recently for members of the American Society of Cinematographers. The reel of color shots was described by an Eastman spokesman as simply "a visual progress report on the medium and not to be construed as example of the ultimate results to be obtained with the film." Most of the cameramen present voiced their opinion of the color qualities of the film as "very good." It was stated then that the film would be generally available in quantities to anyone before the end of 1950.

The film, designated as Eastman Color Negative, Type 5247, is a multi-layer color film intended for use in conventional 35mm. motion picture cameras, such as the Mitchell, Bell & Howell, Eyemo, etc., which are used at present in shooting black and white film. It consists essentially of three light-sensitive emulsions, each sensitized differently, and coated on a safety support, as shown in the diagram above. Incorporated in the emulsion layers are dye couplers which react simultaneously during development

Print Film, Type 5381.

Eastman color negative film is color balanced for use under average daylight conditions, which includes sunlight plus some blue skylight (approximately 6000° K). The type of arc light currently being used in motion picture studios for other color processes is also satisfactory.

Tentative exposure is ASA 12. For older meters calibrated in Weston ratings and for older G.E. meters, the following settings are recommended: *Weston* (Daylight) 10; *General Electric* (Daylight) 16. These values apply when the meter reading is taken from the camera position and the subject has average reflectance, or if the reading is made on a gray card.

The lighting contrast for this film should be considerably lower than that used for black and white work. The ratio of fill-light to key-light should be from 1 to 2 or 3 and should seldom exceed 1 to 4 except where a special effect is desired.

Other specifications are: safety base with removable jet antihalation backing; standard 35mm. negative perforations; available in 100-, 200-, 400-, or 1000 foot rolls, with standard cores and windings.

Eastman color negative film may be processed in conventional type continuous processing machines, with minor modifications to allow for necessary 8 processing steps. Anticipating early use of this film, 20th Century Fox, Warner Broth-

(Continued on Page 102)

BASIC MOVIE SEQUENCES

(Continued from Page 90)

medium shot is a sort of intermediate step between the long shot and a really close shot of the main subject. It is necessary to have such a shot because if we were to jump directly from the long shot to a closeup, the audience would be momentarily lost—it would not readily fit the magnified segment into its overall context.

The closeup, of course, is the ultimate goal of any well-planned sequence. An audience naturally desires a good close look at the main subject of the sequence. To deny the audience this privilege is to leave it unsatisfied, besides ignoring the most powerful function of the screen medium: that of being able to select any visual element, no matter how small, and blow it up to dominate the screen dramatically.

We have said that the above shots are all relative in terms of distance from the subject, area shown, etc. This is true. What one cameraman may think of a long shot may impress another cameraman as a medium shot, etc. In general terms, however, you can think of the average long shot as showing a full view of the main subject, plus enough more to clearly indicate the surroundings or natural setting. Should you get too far away for this long shot, you stand the chance of losing the main subject in a vast expanse of background.

The simplest formula for building a basic film sequence is: long shot, medium shot, closeup, re-establishing shot. One can scarcely go wrong in using this pattern. However, in order that the sense of the sequence not be lost, it is advisable to write out in the form of a simple scene list, before starting to shoot, exactly what action will be taking place in each shot. Unless this is done, one runs the risk of having important action lost in the long shot, while the closeup becomes a static lifeless thing because the important action has already taken place. A bit of advance planning will help you avoid this cinematic blunder.

While the above formula is the simplest, and probably the best for guaranteeing a consistently acceptable result, it is by no means a hard and fast rule. As the filmer becomes more and more conscious of the techniques of screen continuity, he will want to vary the pattern for variety. For example, it is often effective to start a sequence with a closeup in order to immediately focus attention on a significant bit of action and then cut to longer shots for the purpose of showing where the action is taking place. This pattern offers fine opportunities for building suspense or surprise humor.



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For those who wish to go more deeply into the mechanics of movie-making, we should like to suggest the "moving camera" as a continuity device. It is often effective to begin a sequence with the camera on a long shot and then pan to a closer shot, or vice versa. Also, if you are able to buy or build a small camera dolly, a whole new world of camera technique presents itself. You can start with a long shot and dolly in to a closeup, or you can work it just the other way around. The obvious advantage of the dolly shot is that it is the smoothest possible way to go from one shot to another without losing the audience. On the other hand, the movement of the camera itself should be sufficiently paced that the important action is not held up purely for the purpose of allowing the camera to execute its movement.

As one goes more deeply into sequence planning, it becomes evident that there are more and more departures from the simple basic formula which can be used to good advantage. Sometimes an emphatic sequence can be built by using a series of large closeups, one right after the other. In this instance, the context is less important than the action itself. Once the camera has clearly established

(Continued on Next Page)

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the pattern of action, then the cameraman may move back to show the setting in which all of this action is taking place.

In planning a sequence it is necessary to bear in mind that the audience will see only as much as you, the cameraman, wish it to see—and that their entire impression of the action and the setting will depend upon what you frame in the view-finder. The cameraman, being in the position of seeing the entire situation, often takes it for granted that the audience will automatically see that much also, and so he does not show enough in his shots to really establish the setting. It is wise to adopt the audience point-of-view when planning the various shots.

In the initial sequence of a film, avoid

making changes in camera angle too abruptly. For example, if you start out with a long shot and cut to a medium shot, at the same time completely reversing the angle, the audience will be left high and dry as to the spacial relationship of the various elements of the scene. By the time they straighten out their thinking and are re-oriented on the subject, they may have lost important action. It is wiser to keep the progression going either forward or backward in a relatively straight line, while still varying the angle enough for variety.

As in all phases of cine photography, experimentation will provide many unsuspected methods of building effective sequences. Start with the basic formula, and then build from there.

MATTS, MINIATURES AND METICULOUS PHOTOGRAPHY

(Continued from Page 83)

against black velvet, then printed in on that area of the scene, using the matt technique. The same procedure was followed in filming the upper third of the scene: first the miniature, then the people, then matt printing the various components to produce the final composite print.

Came next the climactic destruction of the Temple, all of which was photographed in miniature, with the people superimposed or matt printed in the scene. Readers who already have seen the picture will recall how Samson, having regained his strength, wreaks his vengeance on the Philistines by dislodging the massive stone columns supporting the huge idol, thus bringing down the Temple in ruin on the King and his followers who were gathered there to humiliate Samson.

Jennings had to wreck the miniature Temple set (37 feet high) and crash the idol (17 feet high) three times before he got a satisfactory take—proving that even inanimate things sometimes “fluff” their lines before the camera. The falling of the idol was filmed in slow motion, with the camera speeding the action up slightly as the idol crashed on the Temple floor. On the first take, the triggering device that was to release the idol failed to work; the second time the idol toppled over as planned, but the device that was to release the back wall and allow it to fall failed to work. A few tests and some additional adjustments caused everything to go off as scheduled on the third try, and Jennings hustled this take to the laboratory to look at the result. This was only the first step in making the scene, which is the high point in the picture. The next step was to put the hordes of terrified people into the scene;

show them being crushed by falling stones and masonry, or hurtling through space as they fell from the collapsing Temple balconies.

This was done by first photographing the players performing on the full-scale set, which first had been completely covered with black velvet, then double printing this action over the shot of the crumpling Temple—a matter of routine printing for Jennings' Special Photographic Effects Department.

Readers unfamiliar with advanced special effects technique employed in the major studios today may be interested in knowing something of the procedure employed in this instance. Roughly, it consisted of making a traveling matt of the action staged against the black velvet which produced a solid background. The matt was made by first projecting the action film on an animation table, frame by frame. An artist then drew an outline on animation “cells” of the players in each frame. The figures were then inked in solid, the entire series of “cells” photographed a frame at a time, as in making animated cartoons, and the resultant film became the traveling matt used in superimposing the people over the shot of the crumbling Temple.

The traveling matt was combined with the picture negative at time of printing so that the print came through with the matted-out area unexposed. The film was then put through the printer again, this time with negative of the action of the players filmed against the velvet, and the players printed in on the unexposed, matted-out area. This resulted in a composite print of the two camera negatives without any double image or “ghost” effects.

Although for Jennings each new as-

signment inevitably presents some new photographic problem, he has yet to encounter any that he has not successfully overcome. Twenty years as head of Paramount Pictures' Special Photographic Effects Department have sharpened his capacity to meet any special effects problem tossed on his desk by that studio's producers.

Gordon Jennings three times has won Academy “Oscars” for Achievement in Special Effects—one each for “Spawn Of The North,” “I Wanted Wings,” and “Reap The Wild Wind.” He also holds an Honorable Mention Certificate from the Academy for his technical accomplishment in developing Paramount's Nodal Point Camera Tripod; also five Nomination Certificates for other Technical Awards and Special Photographic Effects achievements.

His name is up again this year for an Academy Technical Award for the development of the electronic repeater described earlier here, and undoubtedly he also will be nominated for a 1950 Achievement Award next year for his noteworthy special photographic effects in “Samson And Delilah.”

“OSCAR” NOMINEES

(Continued from Page 86)

“Laura.” In 1945, Harry Stradling was awarded an Oscar for his outstanding black and white photography of “The Picture Of Dorian Grey.” And last year, Winton Hoch received one of the three Oscars awarded for the Technicolor photography of “Joan Of Arc,” on which he collaborated with the late Joseph Valentine and William Skall, A.S.C.

William Snyder was a contender last year when “The Loves Of Carmen,” which he photographed in Technicolor for Columbia Pictures, was nominated for a photographic award. He is a contender again this year for his work on “Jolson Sings Again.”

Robert Planck was also a contender last year, “The Three Musketeers,” which he photographed for M-G-M, having been nominated for an award in the Color Films class.

Charles G. Clarke is riding a potential winner again this year in “Sand,” after just barely missing out last year with “Green Grass Of Wyoming,” one of the nine 1948 nominees.

There were no foreign-made films nominated for Cinematographic Awards this year.

A full account of the winning films and the directors of photography who filmed them will appear in the April issue of the American Cinematographer.

COLOR TEMPERATURE

(Continued from Page 88)

for maximum range, or at 20, representing 2,000 foot candles for maximum sensitivity.

When using the Harrison Color Attachment a new reading should always be taken with any change of picture composition, the manufacturer points out, because a new source of light may change in color temperature. "Only the direct light falling on the subject should be measured for color temperature," Harrison explains, "because any reflected light from the scene will change the color temperature and give a false reading. Therefore, in using the Attachment, it should be held in line with the camera lens—and pointed directly at the camera lens—to get a correct reading. If this cannot be done, because it is impossible to stand in the camera field, then point the Attachment in the same direction so as to pick up the incident light, but not any of the reflected light from objects in back of the camera. Any indirect light or reflected light from the ground, buildings, walls, trees, etc., must be avoided or wrong readings will result."

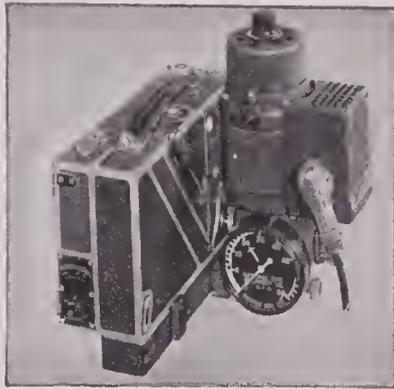
Thus it is apparent that the Harrison Color Attachment differs somewhat from other color temperature meters, which give color temperature readings by pointing the meter directly at the light source.

Harrison points out that readings with his Attachment will go as high as 30,000 degrees Kelvin for skies, while noon sun will render a reading of 5,400 degrees Kelvin. Early morning or late afternoon readings will go as low as 3,200 degrees Kelvin. Therefore, with every change in direction of reading, the meter may pick up more of one of the other kinds of light and, as a result, show large color temperature changes.

It should be noted that use of the Harrison Attachment calls for exclusive use of Harrison & Harrison color correction filters, or "corrector discs," as this company terms them. As already pointed out, the CC filter required for balancing the light for a given light condition and film is determined from the conversion table after reading the color temperature.

For the average photographer, it is claimed that as few as four Harrison & Harrison CC filters are all that are needed for normal color photography. Where it is desired to expand control to a primary range of completeness, additional groups of four each of CC filters may be added.

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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.

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type DW exposure meters. No adjustment is necessary unless some attention is needed in establishing a higher degree of color relationship between any individual or particular G.E. meter and the Attachment. To accomplish this, a minor adjustment is made in the alignment of the red and blue step-wedges of the Attachment—an adjustment easily made by the owner himself.

Hartley Harrison, whose photographic filters are known the world over, has pioneered in the study of color temperature and in developing methods for correctly determining color temperature and the means for balancing light for color films through use of technically correct filters. In 1946 he announced the first Harrison Color Temperature meter, which read directly for both degrees Kelvin and compensating filters. Continuing research lead to development of the present Harrison Color Attachment for use with the General Electric exposure meter, said to be the first complete, all-purpose light measuring unit. The logic of combining two instruments necessary to determining both light intensity and light quality for color photography is at once apparent.

MAGNETIC RECORDING

(Continued from Page 84)

on the first printing track to necessitate a new track for duplicating purposes. Through the use of discs, a number of original recordings can be retained without tying up vast footages of magnetic stock.

The magnetic recording and re-recording done at this studio has, thus far, been quite successful. The equipment we are using employs perforated 17½mm. film stock at a speed of 90 feet per minute. Flutter elimination is accomplished by spring-loaded compensating rollers and one flywheel. With good maintenance, a speed variation of one-tenth of one per cent can be expected. A signal to noise ratio of 57 db. and a frequency response of plus or minus one and one-half db. from 60 to 10,000 cycles are characteristics of the equipment which have proven very satisfactory for re-recording to film.

Among the many re-recording jobs we have completed to date have been interior and exterior shots for television spots in which the magnetic masters were transferred to printing tracks without editing, and Western features where the magnetic stock was cut to the picture before re-recording. Still another type consists of narrated pictures wherein music scoring is dubbed and mixed with the narration.

The conclusions we have reached are

that the high signal-to-noise ratio, good frequency response, ease of handling and simplicity of operation—all characteristic of the magnetic medium—provide excellent re-recording to film. The end result being better sound at a lower cost to the producer.

EDITING

(Continued from Page 93)

almost \$10.00 per roll. If the scene is overly long, necessitating considerable cutting, keep in mind this footage need not be wasted; you can probably use it in another picture, or perhaps make another, shorter film from all the excess footage culled from this one—but with a different slant.

Definitely delete under- or over-exposed shots. If a sequence comprising three or four cuts has one or two scenes in which the sky coloring is definitely lighter or darker than in the other scenes, do not splice a light scene following a dark scene, but try to intercut a closeup between them to conceal the error. Matching scenes for color should be one of your primary endeavors, for nothing so distracts the eye from a color picture's pictorial and story qualities as a sharp deviation in the overall color resulting from careless exposure. We all experience this, however, and the one way to gloss over the inconsistency is to employ the editing trick suggested here.

Next look for discrepancies in action—if there be action in your film—and don't hesitate to cut a scene sharply to make the action dovetail with that in the scene that follows. Panning scenes deserve critical attention, too. If you panned to the right and then backtracked a little again to the left, back up and cut the film where the reverse panning started. Double panning is poor photographic practice; if you indulge, at least you can correct it when editing.

On a lengthy photoplaylet, your editing should be done sequence by sequence for best results, just as films are cut and edited in the studios. In this way you can concentrate upon one sequence at a time, cutting and "polishing" it until you have it just right—then proceed to the next. It is much simpler to concentrate on a short individual sequence than trying to keep the entire picture in mind in cutting the whole thing at once.

Family films usually can be cut considerably, once the novelty of new footage wears off. Let those most recently filmed rolls "cool off" on a shelf for a while—but not too long!—and then screen them again and you'll see where certain cuts may be made to advantage.

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frequently indulge in "snapshot" movie making—that is, take camera along on a vacation or week end motor trip, and simply shoot the things that interest him as he goes along. Like still camera snapshots, these movies supply entertainment in recalling the pleasures of your trip, and more often than not are soon forgotten.

An imaginative movie maker, however, will turn such footage into entertaining movies good for endless repeated showings on his home movie programs. Taking several such rolls of film, he'll screen the lot, then draw upon his imagination for a continuity thread on which to string the scenes, inject a running gag for humor (which may call for some post-filming of additional footage) and in the end come up with an entertaining film—all salvaged from forgotten footage that was shelved after immediate interest in it waned.

Even a single roll of movie film shot of some momentous event will require some editing to bring it to the screen in expert presentation—the addition of main and end titles, necessary descriptive or explanatory titles, and the cutting out of badly exposed shots, and perhaps a re-arrangement of scenes to smooth the flow of continuity.

To those readers who have never seriously undertaken editing of their films, we strongly urge them to try it. Through editing you can overcome shortcomings in photography you observed when first you projected those rolls of film in which you may long since have lost interest. You can combine unrelated shots, even whole rolls of film, to make a completely new motion picture. You'll have a lot of fun re-arranging scenes, then observing the fresh new interest they create on the screen.

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EASTMAN COLOR FILM

(Continued from Page 95)

ers and Columbia Pictures already are making the necessary alterations and additions to their lab equipment to handle the film, while Cinecolor and Consolidated laboratories, catering to the independent film producer's needs, likewise are preparing to meet the demand for Eastman color film processing.

Both Fox and Warners have made test shorts with the film, which have been approved enthusiastically by the respective company executives. Recently heads of other major companies viewed these tests at Fox New York headquarters. When the "go ahead" sign is given by Eastman, it is expected that most of the studios will start their programs off by using the new medium for short subjects, launching full scale production later as cameramen and lab technicians perfect the technique of working with the new film.

To prep lab heads and technicians in processing procedures, Eastman Kodak Company last month conducted a series of seminars in Hollywood, inviting the key men of all local labs, studio and independent, to attend. Until the labs are fully equipped and ready to process the film, Eastman Kodak does not care to place the medium in use. As Kodak will do no processing of the film, responsibility rests with the various studio laboratories to develop and print the film. Toward this end they are now gearing equipment and personnel.

MEN WHO LIGHT SETS

(Continued from Page 85)

will change the colors. Low levels of illumination, which in black and white photography result only in obscuring shadows, will often change the appearance of background, costumes, or features. Here, more than in a black and white film production, the director of photography's knowledge of light sources and their relation to or effect on colors is vitally important. Today, the increasing use of color films has added still another factor to set lighting problems for him—that of color temperature. With the increasing number of color film processes being used, or about to be used, by the motion picture industry, color temperature becomes even more of a prime factor than foot candles in lighting motion picture sets. Directors of photography are, of course, keeping abreast of these developments. It's part of their job to know about color and color tem-

perature and especially the tricky part that reflected light can play in upsetting color temperature balance—a real photographic problem.

Quite obviously all this is outside the scope of operations of the gaffer although a good gaffer will endeavor to acquire a rudimentary knowledge of lighting technique for color films, if for no other reason than to enable him to cut corners in roughing in a set.

Set lighting technique, therefore, is not a question of volts and amperes, but rather the method employed to secure results, which becomes an individual problem—the problem of the director of photography. Indeed it is too closely tied in with photography itself ever to be detached and made the responsibility of a second individual.

In the course of production, the camera changes position several times on a set in order to photograph *long shots*, *medium shots* and *closeups*. The director of photography must rearrange some of the lights on the set for each of these camera changes. A typical interior *long shot* filmed in black and white usually calls for lamps placed high on parallels around the walls of the set, behind doorways and windows, on backings, and on the floor in the foreground.

When the camera is moved in for a medium shot, the director of photography will have his gaffer re-direct some of the overhead lights. As a rule no major changes are required in location of overhead or backlighting units.

When moving in for a closeup shot, the director of photography calls for re-arrangement of the front floor-lighting units and still further re-direction of the lamps overhead.

Perhaps the closest cooperation between the director of photography and the electrical crew is required when a follow shot is to be made that calls for the camera, mounted on dolly or crane, to follow the action around the set or even from room to room. Here the entire area of travel must be lit properly, and it is often necessary to raise or lower illumination levels in certain areas during the actual shooting—accomplished by dimmer banks and by cueing the operators.

Thus it may be seen that photographing a motion picture is something more than directing the camera on the scene, setting focus and exposure and recording the action. These are the mechanical steps. The quality of the photography that results depends upon the light directed into the scene, how it is directed, its quantity and quality. That is the responsibility of one man—the director of photography.

NEWS OF NEW
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Hollywood Camera Exchange, 1600 No. Cahuenga, Hollywood, announces its new H.C.E. "Line-up" Viewfinder for use by cameramen and technicians in lining up camera without necessity of using camera's heavy viewfinder. Finder optics are adjustable making it possible to determine stage area taken in by lenses of different focal lengths. Finder is cali-



brated for use with both 16mm. or 35mm. camera lenses; may be used to determine what focal length lens to use to cover a given area. Price is \$14.75.

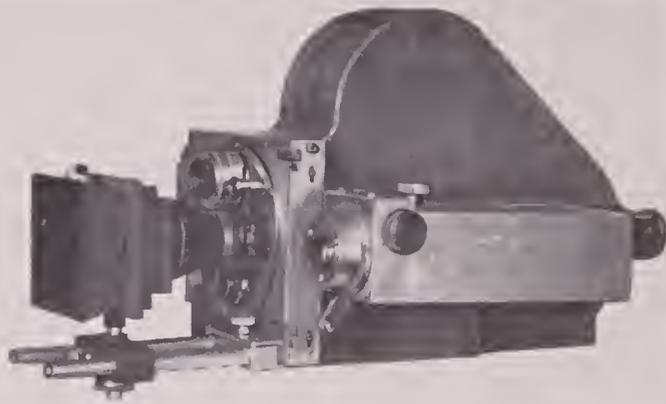
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Catalog of Govm't Photos

A new catalog and picture service, centralizing for first time vast reservoir of U. S. government photos and movie films is announced by Washington Commercial Co., 1200 15th St., Washington 5, D. C. Titled "Through Government Lenses," book provides selection of 672 photos produced by more than 100 government agencies. Also offered is search and procurement service wherein firm will locate any government black and white or color still and motion picture sequences. Should interest both movie and t.v. program producers. Price of book is \$7.50.

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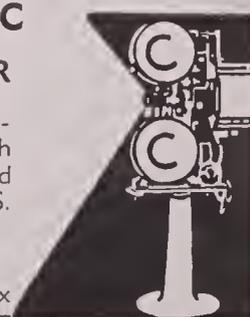
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Current Assignments of A.S.C. Members



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

Columbia

- VINCENT FARRAR, "The Firefighters," with Bill Williams, Barton MacLane, Marjorie Reynolds, Gloria Henry. Seymour Friedman, director.
- CHARLES LAWTON, "The Fuller Brush Girl," with Lucille Ball, Eddie Alhert, Jeff Donell, Carl Benton Reid and John Litel. Lloyd Bacon, director.

Eagle-Lion

- LIONEL LINDON, "The Sun Sets At Dawn," with Sally Parr, Philip Shawn, Walter Reed and Lee Fredericks. Paul Sloane, director.
- ERNEST LASZLO, "The Jackie Robinson Story," with Jackie Robinson and Ruby Dee. Al Green, director.
- ELMER DYER, "Timber Fury," with David Bruce, Laura Lynne, Nicola Di Druno and Sam Flint. Bernard B. Ray, director.

Independent

- HARRY C. NEUMANN, "Phantom Of The Sea," with Laura Elliot, Jim Arness, Bill Kennedy, et al. Norman Dawn, director.

Lippert

- BENJAMIN KLINE, "Operation Haylift," with Bill Williams, Ann Rutherford, Jane Nigh and Tom Brown. William Berke, director.
- KARL STRUSS, "None Came Back," with Osa Massen, Hugh O'Brian and John Emery. Kurt Neumann, director.

M-G-M

- JOSEPH RUTTENBERG, "The Miniver Sequel," (In Color—shooting in England), with Greer Garson, Walter Pidgeon, John Hodiak and Cathy O'Donnell. Henry Potter, director.
- ROBERT SURTEES, "King Solomon's Mines," (Technicolor) (Shooting in Belgian Congo) with Deborah Kerr, Stuart Granger and Richard Carlson. Compton Bennet, director.
- ROBERT PLANCK, "Summer Stock," (Technicolor) with Judy Garland, Gene Kelly, Gloria DeHaven, Phil Silvers, and Eddie Bracken. Charles Walters, director.
- HARRY JACKSON, "Three Little Words," (Technicolor) with Fred Astaire, Red Skelton, Vera Ellen, Arlene Dahl, and Keenan Wynn. Richard Thorpe, director.
- WILLIAM SKALL, "Kim," (Technicolor—shooting in India) with Errol Flynn, Dean Stockwell and Paul Lukas. Victor Saville, director.
- WILLIAM SNYDER, "The Toast Of New Orleans," (Technicolor) with Kathryn Grayson, Mario Lanza, David Niven, James Mitchell. Norman Taurog, director.
- PAUL VOGEL, "Visa," with Hedy Lamarr, John Hodiak, James Whitmore, and George Macready. Joseph Lewis, director.
- RAY JUNE, "Crisis," with Cary Grant, Jose Ferrer, Paula Raymond, Signe Hasso, Ramon Navarro, Antonio Moreno. Richard Brooks, director.
- JOHN ALTON, "Father of the Bride," with Spencer Tracy, Joan Bennett, Elizabeth Taylor, Don Taylor, Billie Burke, and Leo G. Carroll. Vincent Minnelli, director.

- NORBERT BRODINE, "Right Cross," with June Allyson, Dick Powell, Ricardo Montalban, Lionel Barrymore and Theresa Celi. John Sturges, director.
- GEORGE FOSLEY, "A Life Of Her Own," with Lana Turner, Ann Dvorak and Barry Sullivan. George Cukor, director.
- WILLIAM MELLOR, "The Next Voice You Hear," with James Whitmore, Nancy Davis, Gary Gray and Art Smith. William A. Wellman, director.

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- WILLIAM A. SICKNER, "Square Dance Katy," with Vera Vague, Jimmie Davis, Phil Brito, Virginia Welles. Jean Yarbrough, director.
- WILLIAM L. O'CONNELL, "Jiggs And Maggie Out West," with Joe Yule, Renie Riano, George McManus, and June Harrison. William Beaudine, director.
- HARRY C. NEUMANN, "Guns Roar In Rock Hill," with Whip Wilson, Andy Clyde and Reno Browne. Wallace W. Fox, director.
- WILLIAM A. SICKNER, "A Modern Marriage," with Robert Clarke, Margaret Field, Nana Bryant and Reed Hadley. Paul Landres, director.
- WILLIAM A. SICKNER, "Henry Does It Again," retitled "Father Makes Good," with Raymond Walburn, Mary Stuart, Barbara Brown, Gary Gray, and Olin Howlin. Jean Yarbrough, director.
- MARCEL LEPICARD, "High Stakes," with Leo Gorcey, Huntz Hall, Hillary Brooke, and Lyle Talbot. William Beaudine, director.

Paramount

- DANIEL FAPP, "Union Station," with William Holden, Barry Fitzgerald, Nancy Olson, and Jan Sterling. Rudolph Mate, director.
- LEE GARMES, "My Friend Irma Goes West," with Marie Wilson, John Lund, Diana Lynn, Dean Martin and Jerry Lewis. Hal Walker, director.

R.K.O.

- JOSEPH WALKER, "Come Share My Love," with Irene Dunne, Fred MacMurray, Andy Devine, William Demarest, Gigi Perreau and Natalie Wood. George Marshall, director.
- WINTON HOCH, "Jet Pilot," (Technicolor) with John Wayne, Janet Leigh, J. C. Flippen, Paul Fix and Richard Rober. Josef von Sternberg, director.
- HARRY WILD, "Sons Of The Musketeers," (Technicolor) with Cornel Wilde, Maureen O'Hara, Alan Hale, Jr., Nancy Gates. Lewis Allen, director.
- NICK MUSURACA, "White Rose For Julie," (Westwood Prod.) with Robert Mitchum and Faith Domergue. John Farrow, director.
- LEO TOVER, "Story Of A Divorce," with Bette Davis, Barry Sullivan, Kent Taylor, and Betty Lynn. Curtis Bernhardt, director.
- NICK MUSURACA, "The Wall Outside," with Jane Greer, Dennis O'Keefe and Lisabeth Scott. John Cromwell, director.

20th Century-Fox

- JOE MACDONALD, "Outbreak," with Richard

Widmark, Paul Douglas, Barbara Bel Geddes. Elia Kazan, director.

- MILTON KRASNER, "Rawhide," with Tyrone Power, Susan Hayward, Hugh Marlow, Dean Jagger and Edgar Buchanan. Henry Hathaway, director.

- JOSEPH LASHALLE, "Where The Sidewalk Ends," with Dana Andrews, Gene Tierney and Gary Merrill.

- LESTER WHITE, "Dark Challenge," retitled "The Challenge," (Thor Prodn.) with Mickey Rooney, Beverly Tyler and Pat O'Brien. Tay Garnett, director.

United Artists

- FRANK PLANER, "Three Husbands," (Gloria Films) with Emyln Williams, Eve Arden, Howard de Silva, Ruth Warwick and Billie Burke. Irving Reis, director.

Universal-International

- RUSSELL METTY, "Peggy," (Technicolor) with Diana Lynn, Charles Coburn, Charlotte Greenwood, Barbara Lawrence. Frederick de Cordova, director.
- MAURY GERTSMAN, "Louisa," with Ronald Reagan, Ruth Hussey, Charles Coburn, Edmund Gwenn, Spring Byington, Piper Laurie and Scotty Beckett. Alexander Hall, director.
- IRVING GLASSBERG, "Panther's Moon," retitled "Train To Lausanne," with Howard Duff, Marta Toren, Philip Friend, Robert Douglas, Walter Slezak and Philip Dorn. George Sherman, director.
- WILLIAM DANIELS, "Winchester 73," with James Stewart, Shelly Winters, Dan Duryea, Stephen McNally. Anthony Mann, director.

Warner Brothers

- PEVERELL MARLEY, "Pretty Baby," with Dennis Morgan, Zachary Scott, Betsy Drake, and Edmund Gwenn. Bretaigne Windust, director.
- SID HICKOX, "Lightning Strikes Twice," with Richard Todd, Ruth Roman and Mercedes McCambridge. King Vidor, director.
- CARL GUTHRIE, "Two Million Dollar Robbery," with Steve Cochran and Gaby Andre. Andrew Stone, director.
- WILFRID CLINE, "Sugarfoot," with Randolph Scott, Adele Jergens, Raymond Massey, S. Z. Sakall, and Hukh Sauders. Edwin L. Marin, director.

BULLETIN BOARD

(Continued from Page 80)

cano," an independent venture of his, in Italy recently. He described, for the benefit of cinematographers who may be assigned to photograph pictures there, some of the technical hazards and working conditions they may expect to encounter in Italian locations.

• **JOSEPH WALKER, A.S.C.**, recently moved his bag of cinematic tricks from the Columbia lot over to nearby R.K.O. studios where he directed the photography on "Come Share My Love," starring Irene Dunne and Fred MacMurray. During his off hours, Walker continues to follow the progress of television and to develop photographic optical devices tending to improve that medium.



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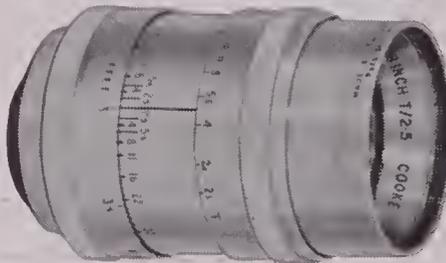
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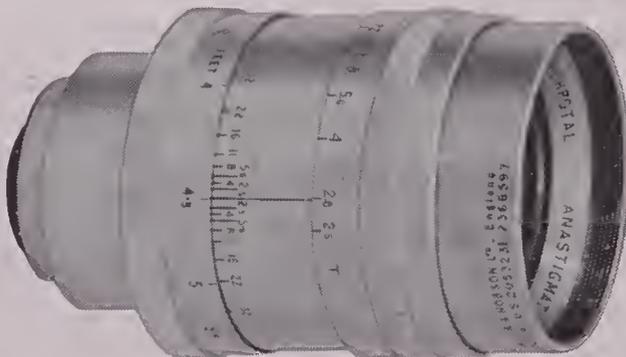
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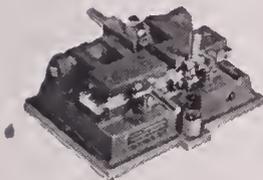
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ON THE COVER

PAUL C. VOGEL (left) and Winton Hoch congratulate each other on winning the 1949 Academy Awards for achievement in photography. Awards went to Vogel for directing the photography on M-G-M's "Battle-ground," and to Winton Hoch for his photography in Technicolor of Argosy Pictures' "She wore A Yellow Ribbon." Both are members of the American Society of Cinematographers.—Photo Courtesy Academy of Motion Picture Arts and Sciences.

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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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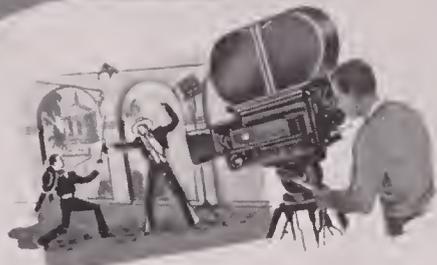
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Rosher, Barnes, Ruttenberg Cited For 'Picture Of The Month' Awards

By FREDERICK FOSTER



ROSHER



BARNES



RUTTENBERG

To CHARLES ROSHER, A.S.C., went the first of the monthly Picture Of The Month awards sponsored by the American Society of Cinematographers for his brilliant photography of Metro-Goldwyn-Mayer's "Red Danube," a black-and-white feature picture which has been cited for the award for January.

Last month the Society also nominated for the award more than 24 pictures released during February, and came up with a tie vote for "Samson And Delilah," photographed by George Barnes, A.S.C., for Paramount Pictures, and "That Forsyte Woman," photographed by Joseph Ruttenberg, A.S.C., for Metro-Goldwyn-Mayer. Both are Technicolor pictures.

Rosher, who has twice won Academy Awards for photography, displays in "Red Danube," a true artist's skill in moulding in the medium of black and white, dramatic and inspiring compositions that give substance and impact to the production. His camera work and lighting set the mood and sustain it throughout the picture, thus adding lustre to the performances of a brilliant cast, and brought out the utmost in dramatic emphasis of an excellent script.

The February award pictures, "Samson And Delilah" and "That Forsyte Woman," each is in a distinct class of its own and received the specialized camera treatment it deserved, albeit with an extra measure of imaginative lensmanship.

"Samson And Delilah," a "spectacle" production, received at the hands of George Barnes brilliant lighting and photography. The color is undeniably lavish, as it should be, and his massive interiors are a credit to his skill as a painter with light. And when he was called upon to photograph the fetching Delilah, he gave her everything he had

in his book of glamour lighting technique.

In "That Forsyte Woman," Joseph Ruttenberg was handed his first Technicolor assignment. The February Award given him for this photographic job attests to the success he achieved the first time out with a Technicolor camera.

As different from "Samson And Delilah" as day and night, "Forsyte Woman" is a mood picture in which there are fine, sensitive portrayals by every member of its excellent cast. Skillful and imaginative photography were essential to highlighting and lending individual emphasis to these portrayals.

Ruttenberg dug deep into his book of experience and applied every lighting trick in filming sequences for this picture, which ranged from low key and fog scenes, to immense interiors with their attendant demands for intricate crane and dolly shots. His closeups of players show a master portraitist's deft touch.

The two pictures display the fine craftsmanship of two of the industry's most resourceful and artistic directors of photography. Each has received, along with Charles Rosher, a Picture Of The Month scroll indicative of their respective accomplishments.

The American Society of Cinematographers, in setting up its program of monthly awards, is stimulating a lively interest among its members and injecting a healthy competitive spirit in their work — all of which redounds to the benefit of the industry as a whole.

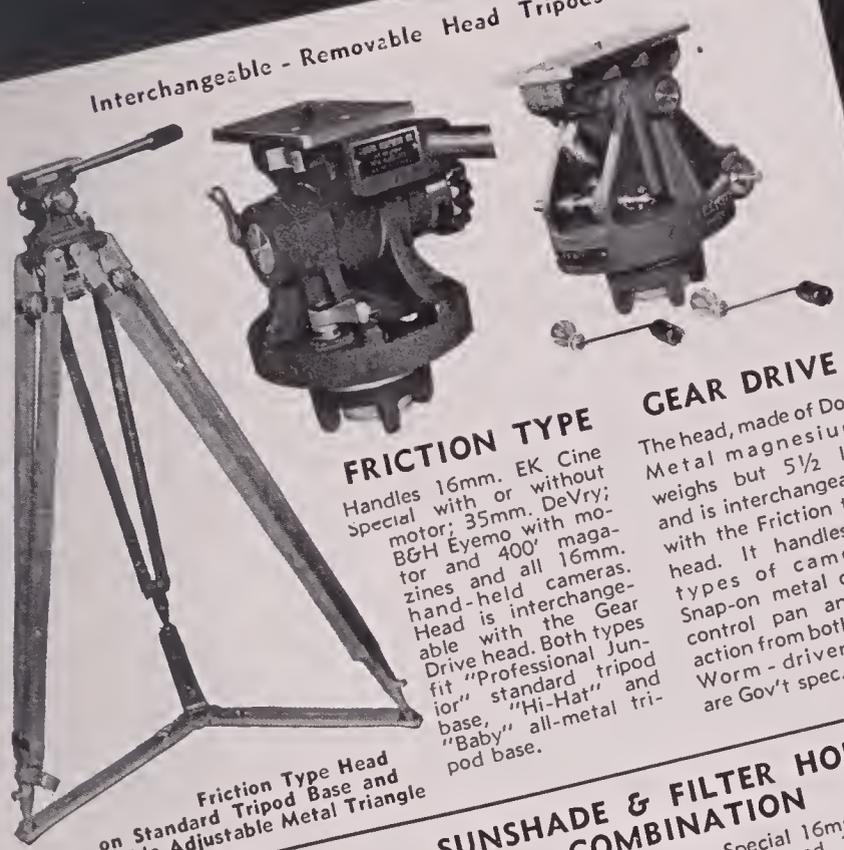
The monthly screening of films, which precedes the voting that names the award-winning film, serves, too, as a forum on cinematic techniques, affording directors of photography opportunity to hear the men who filmed nominated pictures discuss problems encountered in

(Continued on Page 143)

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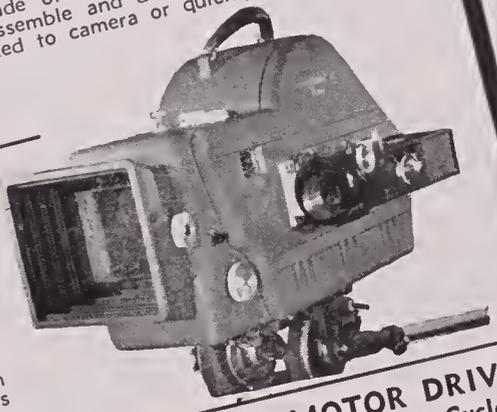
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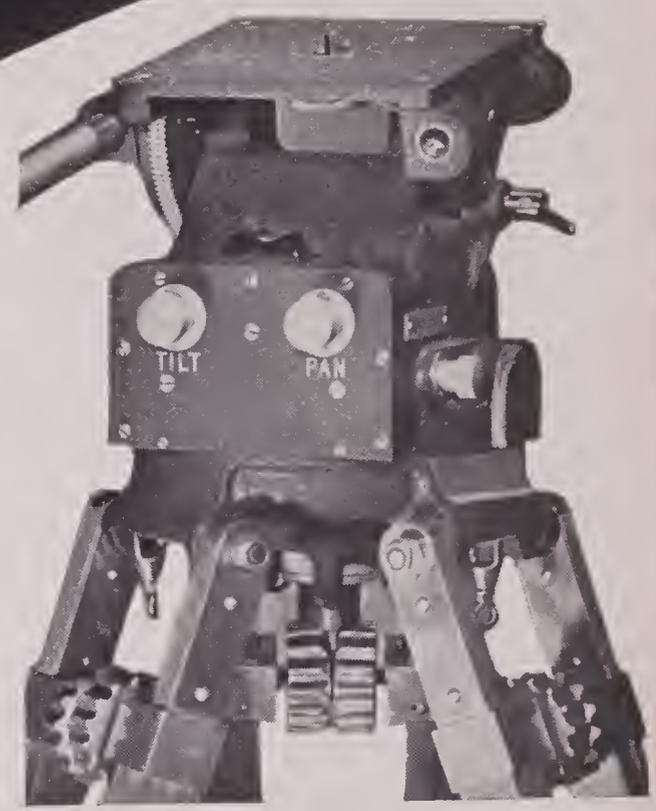
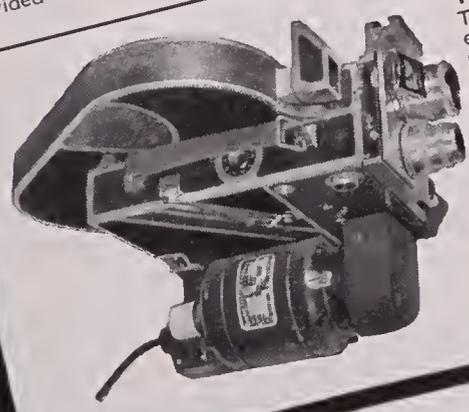
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Hollywood Bulletin Board

TOM TUTWILER, A.S.C., returned from Alaska the middle of March, where he had been on a photographic assignment for Apex Film Corp. He was engaged immediately to do the Technicolor photography of air sequences for the Howard Hughes-RKO production, "Jet Pilot." Winton Hoch, A.S.C., will continue to carry on the production photography of the same picture.

WILLIAM SKALL, A.S.C., who recently returned from India, where he shot background plates for the M-G-M production, "Kim," is now engaged at that studio on the production photography of the same picture.

CHARLES SCHOENBAUM, A.S.C., nominated jointly this year with Robert Planck for an Academy Award for the photography of "Little Women," has been hospitalized for two weeks. After a successful operation for a minor ailment, Schoenbaum is resting at home and is expected to return to M-G-M sometime this month.

FLOYD CROSBY, A.S.C., photographing "The Brave Bulls" for Columbia in Mexico, has devised a protective steel cage for his camera and crew which enables him to obtain realistic closeups of bullfight action with the camera in the arena.

GORDON JENNINGS, A.S.C., who did special effects photography for Paramount's "Samson and Delilah," has resigned as head of that studio's special photographic effects department, a post he held for several years.

CHARLES R. DAILY, of Paramount Studios, and Charles H. Handley, west coast representative for National Carbon Division of the Union Carbide and Carbon Company, were elected to Associate Membership in the A.S.C. last month.

KARL FREUND, A.S.C., who resigned from Warner Brothers last month to devote all his time to managing the affairs of Photo Research Company, Burbank, which he founded, has taken into active partnership Henrik A. Westen of Santa Barbara. Westen is owner of Westen's photographic store in Santa Barbara, California, and of the Brooks Institute of Photography of the same city.

Photo Research Products developed

the Norwood exposure meter, and manufactures the Spectra color temperature meter.

FRANK PLANER, A.S.C., recently completed filming "Three Husbands," for Gloria Films, for which he used Garutzo lenses exclusively—the first time on record that these lenses have been used to shoot an entire feature film production. Lenses, which permit unusual depth of focus and near-3-dimensional effects, were described in an article in the September, 1949, issue of American Cinematographer.

PAUL VOGEL, A.S.C., 1949 Academy Award winner, was saluted for his achievement on DuPont's "Cavalcade Of America" radio program, March 28th.

JOSEPH RUTTENBERG, A.S.C., returned to Hollywood from London last month, where he spent six months directing the photography on "The Sequel To Mrs. Miniver," produced by M-G-M in London.

A.S.C. MEMBERS were shown a motion picture at their February meeting in Hollywood, that pointed up the potential importance of feature films as the programming material for television in the future, and at the same time gave considerable food for thought as to the demands films of this type will make on the technical and artistic abilities of Hollywood's directors of photography. Film illustrated the much-talked-about Phonevision system developed by Zenith Radio Corporation in cooperation with the American Telephone and Telegraph Company, and which will bring feature length films into the home via a hookup of television and home telephones at a fee estimated at a dollar a showing. Phonevision is being prepped for a 300-home practical test in the Chicago area this coming month.

THE IATSE in Hollywood reportedly is embarking on an intensive organization campaign among workers in the 16mm motion picture field. With an estimated 60 companies presently engaged in 16mm film production in Southern California at this time, move was suggested by some workers because of growing complaints of alleged abuses in working conditions. Cited were instances where 16mm. cameramen also edited the footage, etc.

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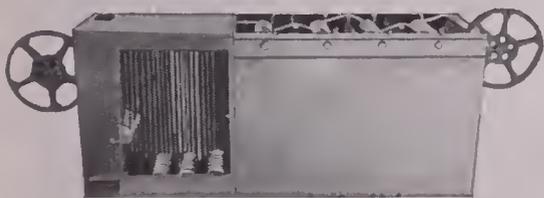
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Current Assignments of A.S.C. Members



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, JR., "Fuller Brush Girl," with Lucille Ball, Eddie Albert, Jeff Donnell, Lloyd Bacon, director.
- FLOYD CROSBY, "The Brave Bulls," with Mel Ferrer, Eugene Iglesias, Anthony Quinn, Jose Torvay and Charlita. Robert Rossen, director.
- VINCENT FARRAR, "Last Of The Buccaneers," with Paul Henreid, Jack Oakie, Karen Booth. Lew Landers, director.
- LESTER WHITE, "Freddie The Great," with Mickey Rooney, Terry Moore, William Demarest and Ross Ford. Peter Godfrey, director.

Independent

- PAUL IVANO, "Pick-up," with Hugo Haas, Beverly Michaels and Allen Nixon. Hugo Haas, director.

Lippert

- KARL STRUSS, "Rocket Ship To The Moon," with Osa Massen, Hugh O'Brian, John Emery. Kurt Neumann, director.

M-G-M

- ROBERT SURTEES, "King Solomon's Mines," with Deborah Kerr, Stewart Granger, Richard Carlson and Hugo Haas. Compton Bennett, director.
- WILLIAM SKALL, "Kim," with Errol Flynn, Dean Stockwell, Paul Lukas, Cecil Kellaway, Arnold Moss. Victor Saville, director.
- NORBERT BRODINE, "Right Cross," with June Allyson, Dick Powell, Ricardo Montalban, Lionel Barrymore, and Teresa Celli. John Sturges, director.
- GEORGE FOLSEY, "A Life Of Her Own," with Lana Turner, Ray Milland, Tom Ewell, Louis Calhern, Ann Dvorak and Barry Sullivan. George Cukor, director.
- WILLIAM MELLOR, "The Next Voice You Hear," with James Whitmore, Nancy Davis, Gary Gray, Art Smith and Douglas Kennedy. William A. Wellman, director.
- PAUL C. VOGEL, "Standoff," with Marshall Thompson and Keefe Braselle. Gerald Mayer, director.
- ALFRED GILKS, "The Tender Hours," with Jane Powell, Ricardo Montalban, Louis Calhern, Ann Harding and Phyllis Kirk. Roy Rowland, director.

Monogram

- WILLIAM SICKNER, "Joe Palooka in Humphrey Takes A Chance," with Joe Kirkwood, Leon Errol, Robert Coogan, Lois Collier and Mary Happy. Jean Yarbrough, director.
- MARCEL LEPICARD, "Bomba And The Lost Volcano," with Johnny Sheffield, Marjorie Lord, Donald Woods and Peter Miles. Ford Beebe, director.
- HARRY NEUMANN, "Six Gun Mesa," with Johnny Mack Brown, Gail Davis, and Riley Hill. Wallace Fox, director.
- WILLIAM SICKNER, "Sideshow," with Don McGuire, Eddie Quillan, Tracey Roberts, Richard Foote. Jean Yarbrough, director.

Paramount

- DANIEL FAPP, "Union Station," with William Holden, Barry Fitzgerald, Nancy Olson, and Jan Sterling. Rudolph Mate, director.
- LEE GARMES, "My Friend Irma Goes West," with Marie Wilson, John Lund, Diana Lynn, Dean Martin and Jerry Lewis. Hal Walker, director.
- CHARLES LANG, "Branded," with Alan Ladd, Mona Freeman, and Charles Bickford. Rudy Mate, director.
- JAMES WONG HOWE, "Tripoli," with Maureen O'Hara, John Payne and Howard Da Silva. Will Price, director. (Pine-Thomas) (Technicolor)

R.K.O.

- WINTON HOCH, "Jet Pilot," (Technicolor) with John Wayne, Janet Leigh, J. C. Flippen, Paul Fix and Richard Rober. Josef von Sternberg, director.
- HARRY WILD, "Alias Mike Fury," with Victor Mature, William Bendix, Terry Moore, Zachary Charles and Cleo Moore. Ted Tetzlaff, director.
- LEO TOVER, "Story Of A Divorce," (Skirball-Manning) with Bette Davis, Barry Sullivan, Kent Taylor, Jane Cowl. Curtis Bernhardt, director.
- ARCHIE STOUT, "Nobody's Safe," (Makers Prod.) with Tod Andrews, Mala Powers, and Robert Clarke. Ida Lupino, director.
- NICK MUSURACA, "Outside The Wall," with Jane Greer, Dennis O'Keefe, and Elizabeth Scott. John Cromwell, director.
- J. ROY HUNT, "Treasure Of The Alamos," with Tim Holt, Richard Martin. George Archinbaud, director.

20th Century-Fox

- MILTON KRASNER, "Rawhide," with Tyrone Power, Susan Hayward, Hugh Marlow, Dean Jagger and Edgar Buchanan. Henry Hathaway, director.
- JOSEPH LASHALLE, "Where The Sidewalk Ends," with Dana Andrews, Gene Tierney, Gary Merrill and Tom Tully. Otto Preminger, director.
- JOE MACDONALD, "Stella," with Ann Sheridan, Vic Mature, David Wayne, Leif Erickson and Hobart Cavanaugh. Clyde Binyon, director.

United Artists

- FRANK PLANER, "Three Husbands," (Gloria Films) with Emyln Williams, Eve Arden, Howard de Silva, Ruth Warwick and Billie Burke. Irving Reis, director.

Universal-International

- MAURY GERTSMAN, "Louisa," with Ronald Reagan, Ruth Hussey, Charles Coburn, Edmund Gwenn, Spring Byington, Piper Laurie and Scotty Beckett. Alexander Hall, director.
- IRVING GLASSBERG, "Panther's Moon," retitled "Train To Lausanne," with Howard Duff, Marta Toren, Philip Friend, Robert

(Continued on Page 146)



Color expert David L. Quaid, one of the nation's leading free lance cameramen, sets up his Maurer 16 mm., prior to shooting a scene for an industrial film (in color.)

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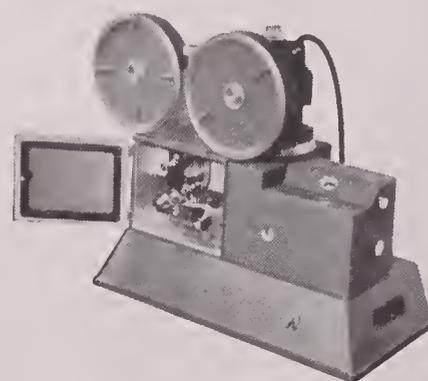
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PAUL VOGEL, A.S.C., beams as Oscar for achievement in black-and-white cinematography is presented him by M-G-M's June Allyson, for his photography of "Battleground."

has been nominated for an Academy Award for photography. And to have your initial nomination voted an "Oscar" is nothing short of sensational, Hollywood cameramen will tell you.

In Vogel's case it was no accident. During all his years at M-G-M, Vogel has displayed unusual consistency and sincerity in his work. He was the perfect example of the director of photography with untapped ability just waiting for the right picture to come along. "Battleground" was that picture, and when John Arnold, M-G-M's camera department head, chose Vogel for the assignment, his faith in the eager, imaginative young man he took under his wing 20 years earlier was amply vindicated in the first day's rushes.

In photographing "Battleground," Vogel had one of the most difficult and exacting assignments handed a director of photography in many years. Here was a picture that depended entirely for its dramatic and pictorial punch on expert lighting and handling of the camera. The greater part of the action was laid out of doors, in the winter time and in dense fog. Vogel photographed this action indoors on sound stages and his achievement in capturing genuine realism can only be appreciated by witnessing the picture on the screen. He has told the interesting story of how this picture was filmed in the December, 1949, issue of American Cinematographer.

The "Oscar" Winton Hoch received for his lighting and camera work in "She Wore A Yellow Ribbon," makes two in a row for this specialist in Technicolor photography. Last year he shared the color photography award with the late Joseph Valentine and William Skall, A.S.C., for the photography of "Joan Of Arc." Hoch and his associates each received an

1949 ACADEMY AWARD WINNERS...

Paul Vogel and Winton Hoch awarded "Oscars" for outstanding photography of feature films for 1949.

TWO OF THE finest photographic jobs to come out of Hollywood in a decade brought reward to two directors of photography in the form of gleaming gold "Oscars," the night of March 23, when at the Hollywood Pantages Theatre Paul Vogel, A.S.C., and Winton Hoch, A.S.C., were called to the stage to receive the awards for best achievement in cinematography for pictures made and released during 1949.

Paul Vogel received the 1949 award for best black - and - white cinematography in recognition of his excellent camera work and lighting of Metro - Goldwyn - Mayer's "Battleground."

Immediately afterward, Winton Hoch was summoned to the stage to receive the "Oscar" for best color photography, reward for his artistic job of Technicolor filming of Argosy Pictures' "She Wore A Yellow Ribbon."

The award climaxes for Vogel a 23 year career as cameraman and director of motion picture photography in Hollywood studios. Moreover, it marks the first time one of his pictures

"Oscar" for their individual contributions in the filming of this outstanding picture.

One of Technicolor Corporation's top directors of photography, Winton Hoch has an impressive record of association with Academy Award winners or nominees. In addition to the two pictures mentioned above, Hoch assisted with the photography of "The Black Swan," which won an award for



WINTON HOCH, A.S.C., was presented with Oscar statuette for best color cinematography by film and radio star, Dick Powell (right). Hoch won award for photography of "She Wore A Yellow Ribbon."

photographic achievement in 1942; also "Crash Dive," which won a special visual effects achievement award in 1943. Hoch photographed the live action in Technicolor for Walt Disney's "So Dear To My Heart," and subsequently shared photographic credit on Walter Wanger's "Tap Roots." More recently, he photographed John Ford's "Three Godfathers" and Walter Wanger's "Tulsa."

As did Vogel, with "Battleground," Hoch found his long-awaited opportunity in "She Wore A Yellow Ribbon." Here was a picture teeming with camera possibilities and Hoch made the most of each one. One need only witness the splendor of his vast exteriors, the quality of his low key photography and the breathtaking handling of the moving camera in the massacre scenes to realize that here is true cinematographic artistry.

Hoch recently completed production photography on R.K.O.'s "Jet Pilot," and is currently preparing to start on a Technicolor picture for 20th Century-Fox. After that, he will return to Argosy Pictures for another John Ford production, which Hoch hopes will afford cinematic opportunities similar to those he found in shooting that company's "She Wore A Yellow Ribon."

"All The King's Men" won the 1949 Academy Award for best picture. Produced by Columbia Pictures, it was photographed by Burnett Guffey, A.S.C., and while not nominated for a cinematographic award, some measure of credit is due director of photography Guffey for his contribution to the overall excellence of the picture.

Credit is due Charles Boyle, A.S.C., also for his cinematographic contribution to "She Wore A Yellow Ribbon." Boyle handled the second unit camera on this production.

Award for special visual effects went to Willis O'Brien, Harold Stine and Bert Willis for the cinematic magic this trio developed for RKO's "Mighty Joe Young."

This year, eight awards for scientific and technical achievement were made by the academy. Among these, which are of importance in the field of cinematography, are Eastman Kodak Company's development of an improved safety base motion picture film, for which that company received a Class One award.

Third class awards (Academy Certificates) went to M. B. Paul for developing the first successful large-area seamless translucent backgrounds, described in earlier issues of American Cinematographer; to A. Coutant and J. Mathot for development of the Eclair Camerette; and to Alexander Velcoff for the application to production of the infrared photographic evaluator, which will be fully described in a forthcoming issue.



LOOK AWARD

LEON SHAMROY, A.S.C., for the second time, has been honored with the Look Achievement Award for outstanding cinematography — this year for his direction of photography of 20th Century-Fox's "Twelve O'Clock High." In 1944 he won Look's first cinematographic award for "Wilson." One of the brilliant cameramen of the industry, winning awards has become a habit with him. Nominated for an Academy Award this year for photography of "Prince Of Foxes," Shamroy has previously won Oscars for "The Black Swan," "Wilson," and "Leave Her To Heaven." Here Shamroy is being congratulated by Sy Bartlett who scripted the winning picture.



FRANK PLANER, A.S.C., was nominated this year for two awards for his photography of "Champion"—an Academy Award, which he lost to Paul Vogel, and the Golden Globe Award, which was presented him in February by the Hollywood Foreign Correspondents' Association, composed of leading press representatives of more than 50 foreign publications. The Correspondents chose "Champion" for its photography out of a nomination list of ten, and tendered its Award to Planer in gala presentation ceremonies at the Hollywood Roosevelt Hotel.



GOLDEN GLOBE AWARD



AUTHOR ROBERT SURTEES, A.S.C., explains to group of Masai warriors how the big Mitchell camera makes movies. Later, the warriors, in re-enacting a battle scene, charged camera and crew with their spears.

am sure that I have had enough of Africa to last me a lifetime. And I am equally certain that "King Solomon's Mines" will make "Trader Horn," M-G-M's earlier African saga, look like a Boy Scouts picnic.

Transporting and caring for a production unit of seventeen people and shooting a safari story in its primitive locale was a tremendous overall operation. Problems frequently arose that seemed fantastic when compared to those usually encountered on a Hollywood set. I will describe some of these, which I have catalogued under three separate headings: climate, animals, and natives.

Considering all problems, the African climate gave us the most trouble. As we were shooting in Monopack, we needed good light conditions. We were frequently unlucky in that we kept running out of sunlight. Our locations were scattered from Stanleyville, in the center of the Belgian Congo, to Nairobi in the Kenya Colony to the east. And we had to jump all over the continent to avoid the peculiar local rainy seasons. We traveled as much as a thousand miles or more from one location to another and revisited some spots as many as four times. We were lucky if we could get in two hours of filming on a "good" day—and this mostly in the early morning. Even then, the light was often weak. We brought along no lights nor generators, because they would be too cumbersome to transport through the deep brush country. Therefore, I had to depend entirely upon reflectors, of which we had only four. These proved highly satisfactory, but were tough on the cast, which included Deborah Kerr, Stewart Grainger and Richard Carl-

Location Filming In Africa For "King Solomon's Mines"

Crew and cast survive an equatorial blizzard, 140 degree heat, rampaging elephants and spear-happy natives in an eight-month African location trek.

By ROBERT SURTEES, A.S.C.

"KING SOLOMON'S MINES" probably will not run over two hours when finally it is completed; but it required almost eight months of hard work, fifty thousand miles of air travel and fourteen thousand miles of overland travel in safari wagons for cast and crew; and when the African phase of filming ended, twenty-four of the crew were in hospitals and three native participants had met death.

Without a doubt it was the most difficult job of motion picture filming ever attempted. Dangers varied from intense tropical heat reaching up to 140 degrees, to a freezing blizzard atop Mount Kenya, a 17,000 foot mountain peak in equatorial Africa. Our crew was attacked by spear-bearing natives and more than once was charged by wild animals. And then there were the deadly African spitting cobras. But more about these later.

As director of photography on this M-G-M production, I



SURTEES AND CREW used portable short-wave radio to keep in touch with headquarters while scouting locations. Here Al Scolatti (left) and Surtees set up antenna while Frank Featherstone checks results through earphones.



SURTEES uses a hand held camera to get angle shots of native tribesmen executing a war-dance. Entire location filming was done in Technicolor Monopack.



SHOOTING scenes at Murchison Falls, Surtees and his assistants are protected by an alert native gunbearer constantly on lookout for savage beasts, poisonous snakes and unfriendly natives.

son, who, scene after scene, stood up to the glaring, burning reflected sunlight without a complaint.

We encountered about every kind of weather known to man. Besides the torrential downpours that raised hob with our equipment, we often had to work in 140 degree temperatures at Murchison Falls in Uganda. By contrast, we ran into a full-scale equatorial blizzard atop Mt. Kenya. We were physically uncomfortable most of the time and plagued with the constant threat of dysentery and malaria.

Eventually we added to our original skeleton crew of Hollywood technicians and at one time this crew numbered forty-six in all. It was necessary to keep the unit as small as possible, and we used half the number of men that ordinarily would be required in order to travel light and for portability.

Upon returning to "civilization" from Murchison Falls, the toughest spot we worked in all Africa, our crew was reduced to its original seventeen members—the others having been sent to hospitals, suffering from amoebic dysentery and malaria. Fortunately, the members of our rugged cast never were ill—at least not seriously enough to hold up production. It was a hard, gruelling experience; but as Deborah Kerr never once complained, none of the rest of us felt we could.

Much more dramatic, but not so persistent, were the problems we encountered with our native cast. We dealt mostly with two African tribes—the giant Watussi from Ruanda Urundi and the Masai, a fierce tribe in Kenya. From the very first we cast Umbopa as the lofty warrior in our story. Umbopa was of splendid physical proportions, standing 7 feet 6 inches in his tremendous big feet and towering over six-foot Stewart Granger.

The Masai proved the most difficult to deal with. The area in which they live is forbidden territory, and the British authorities at first refused to grant permission to use them, saying they were too dangerous, a wildly primitive group that couldn't

be controlled. They finally agreed to our using them at our own risk, and we employed about 400.

The Masai are primarily warriors and herdsmen. Their diet consists of blood mixed with milk. The blood they drain from the necks of their cattle by inserting a hollow, sharp-ended bamboo tube in the flesh. To me, they are the most picturesque tribe—the only really "untouched" tribe in all Africa. They never have signed an official peace treaty with the British. To this day there is almost continual local warfare going on in their reserves. No white people are allowed to live near them, except the government officials. Even these live a precarious existence. For instance, only a few weeks before our arrival, the Masai raided the neighboring Kikiyu, a farming tribe, and stole over 300 head of their cattle—driving them back to their own reserves in the great Rift Valley. About 20 of the Kikiyu were slain in the raid. The British District Commissioner went to them and demanded return of the cattle. At first the Masai refused, but later promised to give them up.

After the cattle were rounded up and brought before the Commissioner, trouble broke out once more. A Masai warrior stepped forward and asked to be allowed to keep one of the calves, claiming it was originally his and mixed into the group of returned cattle by accident. The Commissioner, by now quite exhausted by the lengthy wrangling and disputes, did not investigate the claim and simply refused the Masai's request. Then he made perhaps the greatest mistake of his life—certainly the last one, anyway. He turned his back on the warrior and started to walk away. Witnesses claim he hadn't taken three steps before the native thrust his spear through his back. The Masai was hanged in short order, of course, but the story illustrates what sort of people we had included in our "native" cast.

The Masai are greatly feared by all other African tribes. To become a warrior, a young Masai must kill a lion with a spear single-handed, bathe in the lion's blood, then drag the animal to his chief. Thereafter, for five years, he is known as a warrior, and during this time does no work except to cause trouble for everyone with whom he comes in contact. At best,

(Continued on Page 136)



IT'S A SIMPLE MATTER for the television engineer to mix motion pictures with live action at the monitor console and make it appear that both actions originate at the same source. Here an exterior scene, filmed especially for the program, is intercut between action picked up by two studio television cameras.

Filmed Inserts And Special Effects Aid Live TV Shows

Action on film, intercut with live camera pickups, widens the scope of dramatic television presentations.

By HERB A. LIGHTMAN

Production Director, Cameron Television, Oklahoma City.

TELEVISION as a dramatic medium presents certain spacial and technical limitations, which are frustrating to the producer who wishes to stage a dramatic or variety show having anywhere near the scope of a well-produced motion picture. Sets are necessarily small and crowded, so that they not only limit the action of characters but provide little space for the satisfactory establishment of a major locale. There also exists the problem of suitable transition from one locale to another, not only for the purpose of changing scene, but also to enable an actor appearing in a closely-scheduled series of sequences to change wardrobe. Both of the aforementioned handicaps to production can be solved very neatly through the use of filmed action especially photographed to complement the live action sequences.



DRAMATIC chase scene is filmed for a TV mystery show. Later, it will be intercut with live camera pickups as the play is telecast from the studio.



THE PROCESSED film is threaded in the special TV projector, which is started on cue from the monitor engineer.

With this in mind, many television stations are either buying their own camera equipment or engaging 16-millimeter cameramen to shoot special scenes and sequences when needed. For example, let us say that the locale of a particular dramatic show is Hong Kong, China. The local announcer may be able to apprise the audience of this fact over either a visual title or a small representative set, or even a static miniature, but a much more satisfactory way to establish the locale would be to run a series of stock 16-millimeter scenes actually photographed in Hong Kong, after which the engineer would dissolve to the studio set supposedly located in that city. Stock shots of this type representing almost every locality in the world are available from any one of a number of well-stocked film libraries in New York and Hollywood.

For wider scope in many television dramatic shows, it is advisable to write into the script exterior scenes and transitional material which may be filmed, using the actors who actually appear in the live sequences. In this way, we lift the television drama out of the confines of the TV station and allow it to expand in terms of time and space, so that there is proper scope for the action. For example, let us say that the continuity of the script requires that we show a certain character leaving one interior location, getting into his car, driving away, and then entering another interior location. Without film inserts we would have the somewhat unsatisfactory effect of the actor walking out of one room and into another, instead of proceeding from one distant spot to another. Then too, perhaps a certain significant action would occur as he gets into the car or drives

(Continued on Page 139)

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BELL & HOWELL MODEL "Q" EYEMO, with three arm offset turret and provision for 400' Bell & Howell magazine. Speeds: 8, 16, 24, 32 and 48. Complete with following accessories: Eyemo electric drive 24 volt motor, ratchet hand crank, turret viewer, and late model "through-the-lens" prismatic focusing magnifier. \$675.00

AKELEY CAMERA, 35mm electric operation, 12 or 24 volt, or hand-operated; cylindrical revolving focal plane shutter; speeds of 16, 24, 32 and 48 frames per second; matched objective and view finder lenses mounted together; uses 200' Akeley magazines. Complete with following accessories: Carl Zeiss Tessar lens and matched viewing lens, 50mm f/2.7; Carl Zeiss Tessar lens and matched viewing lens, 50mm f/3.5; Bausch & Lomb telephoto lens and viewing lens, 4 1/2" f/4.5, three Akeley 200' magazines; Akeley magazine carrying case; Akeley Gyro Tripod and gyro-head; Akeley electric motor drive, 12 or 24 volt, complete with cable; power pack, 12 volt, in case. Price, Complete. \$550.00

DE VRY, 35mm late model spring-wound or hand crank. 100' capacity reels. Bausch & Lomb 50mm f/3.5 lens in focusing mount, leaf sight and reflex sight. \$95.00

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

JEROME B-2, 35mm x 200' capacity, 3 lens turret. Operates single frame, or 4 to 48 frames per second, or automatic time delays up to 30 minutes. Also operates as conventional motion picture camera. \$85.00

EASTMAN KODAK (MODEL B-2), 16mm x 100' capacity; (conventional EK Model "E" plus electric drive) 24 volts, 2 frames per second, 1" f/2.5 lens. \$85.00

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DE BRIE LE PARVO (MODEL K). All metal 35mm hand crank with 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 following equipment: Zeiss Tessar lens, 50mm f/3.5; Dallmeyer Kinematograph lens, 50mm f/1.9; Zeiss Tessar, 75mm f/3.5; Zeiss Tessar, 35mm f/3.5; Geared standard height MPA tripod; 7 each 400' magazines with leather carrying case; Leather carrying case for camera. \$475.00

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EYEMO CARRYING CASE, for Model K or Model Q (specify type when ordering). \$12.50

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

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ACME ANIMATION STAND. Completely rebuilt. \$2,500.00

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NATIONAL CINE EQUIPMENT COMPANY ANIMATION STAND. New. \$2,800.00

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How To Edit 16mm "A" and "B" Rolls

The technique of preparing 16mm. negatives for dissolves and other special optical effects.

By EDWARD PYLE, Jr.
Chief Editor, Telefilm, Inc.

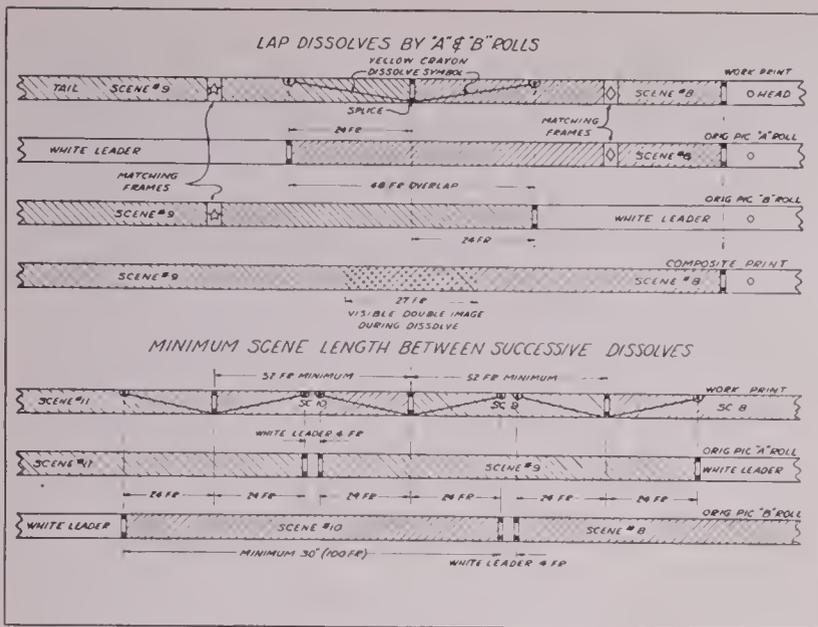


FIG. 1—Chart shows method of marking and identifying "A" and "B" rolls for lap dissolves.

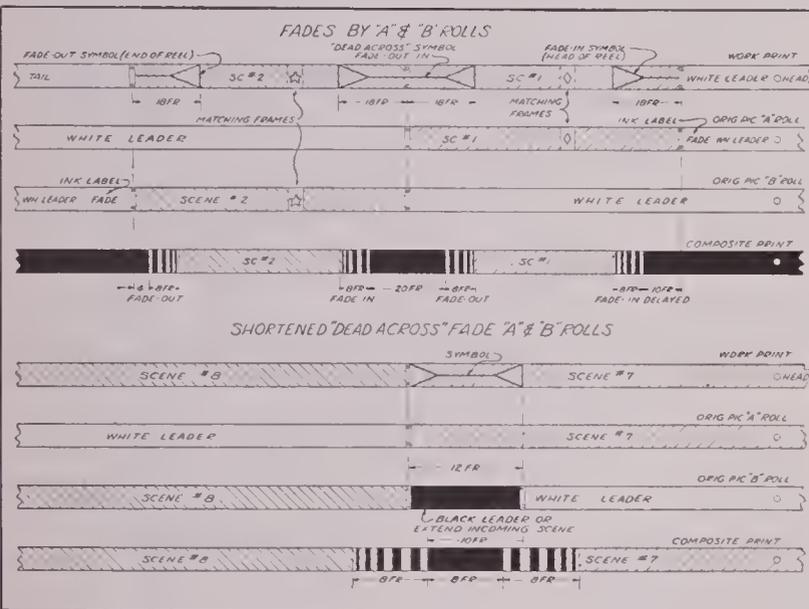


FIG. 2—Procedure for editing "A" and "B" rolls for fades, using work print and original "A" and "B" rolls.

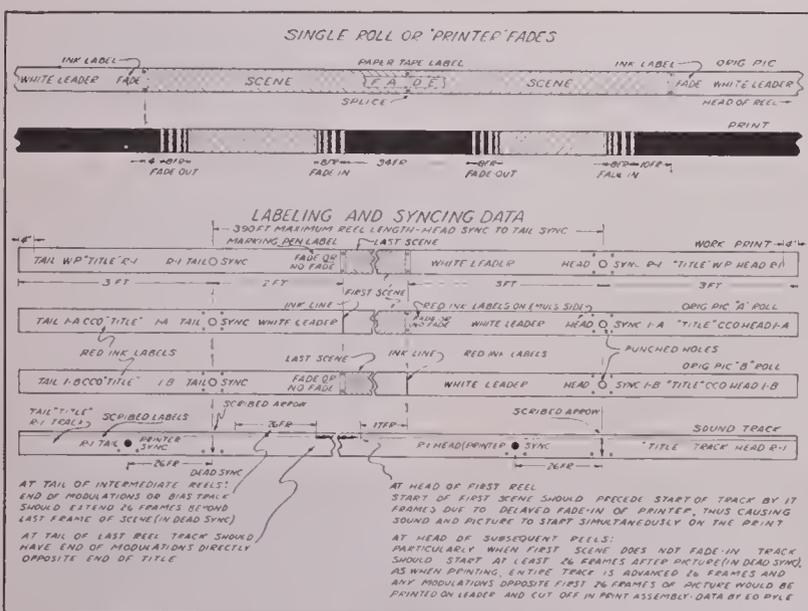


FIG. 3—Guide to editing 16mm. negative for printer fades, with labeling and syncing data. Charts, prepared by the author, are copyrighted by Telefilm, Inc., Hollywood, Calif.

TO THE UNINITIATED, "A" and "B" rolls sounds like a type of alphabetical pastry. Actually, the term is applied to a rather unique procedure often used in the editing of motion pictures, particularly in the 16mm. field.

The 35mm. studio special effects editor uses a similar method in preparing scenes for "optical effects," such as dissolves, fades, wipes and superimposures. Common 35mm. practice is to select two scenes between which a special effect is desired, prepare these "A" and "B," and by the use of an optical single-frame printer, a new negative is made, printing-in the desired effect.

However, most 16mm. release prints, particularly in Kodachrome, are made directly from the camera "original" on a continuous contact printer, a reel or more at a time. This direct printing procedure with only one transfer step or "generation," results in release prints with better characteristics than prints made from an intermediate "master." These one-generation 16mm. release prints, then, require the dissolves and other effects to be printed each time directly from the original scenes assembled usually in one reel units.

But here is where the so-called "A" and "B" rolls method becomes useful. First, let's define it formally and then explain how it works. "A and B rolls" is a motion picture trade procedure of assembling edited original scenes for printing, on two or more rolls, instead of a single roll, for the purpose of printing-in to each release print or duplicate negative, effects such as dissolves, fades and superimposures.

In the best 16mm. editing circles, a work print picture usually is edited and marked with suitable crayon symbols at the scene where "effects" are desired. (See line 1, Figures 1 and 2). When "matching" the original scenes to the edited work print, the "A" and B roll" method requires the use of a 3-channel 16mm. synchronizer. With the work print head sync mark established in one channel of the synchronizer, place the "A" and "B" roll leaders with their corresponding sync marks directly opposite, in the other two channels.

Attach the first original scene, or title, to the leader on the "A" roll, so that it's action and edge numbers, if any, match the work print scene while passing through the synchronizer. (See lines 1, 2 and 3, Fig. 1). Using three take-up reels, with white leader only on the "B" roll at first, roll through the synchronizer, matching and attaching each successive scene to the "A" roll, until a crayon

(Continued on Page 141)

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and

WINTON HOCH, A.S.C.

Who Directed The Photography On "She Wore A Yellow Ribbon"

New Horizons For 16mm News Filmers

By CHARLES LORING

THE WORD "newsreel" has always brought to mind a particular type of 35-millimeter film photographed by a professional cameraman for theater release. Recently, however, there has developed among amateur and semi-professional 16-millimeter cameramen a keen interest in the filming of news stories. Such filming has a number of purposes. With the world more news-conscious than ever before, a great many home movie makers have started collecting films of local news events in order to build up a personal library of news highlights of the year. More important, perhaps, a great many semi-professional cameramen have found that local newsreels are in demand by movie houses having 16-millimeter projection equipment, and that these films can provide a lucrative sideline to one's movie making hobby. From the exhibitors' angle, local newsreels have a direct audience appeal which actually increases attendance. Many small-town and neighborhood theaters have mounted 16-millimeter projectors alongside their 35-millimeter projectors for the showing of local newsreels.

But perhaps the most promising new market for the local news film is television. Many of the smaller television stations do not possess mobile equipment for on-the-spot telecasting of local news and feature events. In such cases, their only chance of bringing such events to the television audience is by having them filmed and quickly edited for transmission. Rather than invest in motion-picture camera equipment, many stations pre-



PROMISING new market for 16mm. news films is television. For stations not yet equipped for remote or exterior pickups, 16mm. motion pictures of news events can be quick-processed and edited and put on the air within a short time of actual occurrence. Small, compact single-system sound cameras, such as the new Auricon "Cine-Voice," is ideal for such work.

fer to buy such footage from local cameramen whose work meets a certain standard of quality. This means that a lucrative new field is rapidly opening up for 16-millimeter cameramen with ability.

How does one go about filming a news story, and what are the differences in technique between this and other types of filming? Defining a news story briefly, one might say that, unlike the documentary, the news film shows exactly what happened at a particular time and place, without production shots or staged action. This is not to say that the action cannot sometimes be controlled in some degree so that it makes a better film; but by and large the function of the newsreel cameraman is to act as a reporter on the scene, recording an actual situation on film.

The keynote of good newsreel filming is simplicity. In order to capture a story while it is happening, one must necessarily discard the time-consuming trimmings of production filming. There usually is no time for artiness or esthetic composition. Nor can one count on nicely modelled lighting, since conditions must be accepted as they exist. In a few situations where the action is relatively static (such as the filming of speeches, etc.), it is possible to set up auxiliary lighting or reflectors to give the photography more finish; but usually these refinements are not practical, and the cameraman must learn to adapt his technique to existing conditions.

Be this as it may, there is no reason why newsreel footage should be of poor quality, provided the cameraman has adequate lenses and uses the right film. The mechanics of proper focus and exposure become quite important in maintaining an adequate standard of quality in the newsreel film. The cameraman entering this field should practice with his equipment until the operational mechanics become second nature. If he will make a point of checking focus and exposure prior to the filming of each scene, these steps will soon become automatic and he can be sure of sharp, well-exposed scenes in every case.

In order to become a good newsreel cameraman, capable of working against deadlines under conditions which are often

(Continued on Page 136)



KEY to good newsreel filming is simplicity. To film an event effectively while it is happening, forget the time-consuming procedures of "production filming." Develop a knack for calculating exposures without a meter and a "sixth sense" for getting needle-sharp focus.



CHARLES J. CARBONARO
Trophy Award
"The Voice Of The Key"



TERRY MANOS
Trophy Award
"Vacation Highlights"



FRANCIS J. BARRETT
Trophy Award
"Overdose"

American Cinematographer Annual Amateur

Here Are the Winners in the 1950 Amateur Motion

THE AMERICAN Society of Cinematographers and the "American Cinematographer," the Society's monthly publication, have chosen for trophy and certificate awards ten leading amateur movie makers, all members of amateur cine clubs, who submitted their best filming efforts in American Cinematographer's 1950 Amateur Motion Picture Competition.

Only one trophy, the American Cinematographer Award, and six certificate awards for Photographic Achievement were slated to be presented, but so numerous were good films that the contest committee, in an eleventh-hour change of plans, decided to enlarge upon the awards and present trophies to makers of the best film in each of four classifications: 8mm. black and white; 8mm. color; 16mm. black and white; and 16mm. color. In addition, the achievement certificates also were awarded.

The 1950 competition marks the return of the A.S.C. and American Cinematographer to sponsorship of annual competition for amateur-made films. Previously, such competitions were annual events, drawing entries from all over the world, until onset of the war resulted in curtailment of both editorial staff and

paper stocks for the magazine, and thus made it necessary to suspend awards indefinitely.

Winners in the 1950 Competition are as follows:

CHARLES J. CARBONARO, Boston Camera Club, Boston, Mass.: Trophy Award, 16mm. Black and White Class, for "The Voice Of The Key," 650 feet, silent.

TERRY MANOS, Taft Cinema Club, Bronx, New York: Trophy Award,

16mm. Color Class, for "Vacation Highlights," 600 feet Kodachrome with sound accompaniment on magnetic wire.

FRANCIS J. BARRETT, Seattle Amateur Movie Club, Seattle, Wash.: Trophy Award, 8mm. Black and White Class, for "Overdose," 100 feet 8mm. with synchronized sound on disc.

GEORGE A. VALENTINE, Stamford Cinema Club, Glenbrook, Conn. Trophy Award, 8mm. Color Class, for "The Wolf's Tale," 400 feet 8mm. color.

CERTIFICATE AWARD WINNERS



RALPH E. GRAY
"Glamorous Guatemala"



ANDY POTTER
"The Raggedy Man"



GEORGE A. VALENTINE
Trophy Award
"The Wolf's Tale"

Film Awards...

Picture Competition

Certificate awards went to:

RALPH E. GRAY, Movie Makers Club of Oklahoma City, Okla., for "Glamorous Guatemala," 800 feet 16mm. Kodachrome.

ANDY POTTER, Valley 8mm. Club, Los Angeles, Calif., for "The Raggedy Man," 400 feet 8mm. Kodachrome with cued music score on discs.

JOHN C. SHERARD, 8-16 Movie Club, Kansas City, Mo., for "First Date,"

800 feet 16mm. Kodachrome with synchronized sound on discs.

STAMFORD CINEMA CLUB, for "Cup Of Fear," 400 feet 16mm. black and white with cued sound on magnetic tape, photographed by John Harms, Stamford, Conn.

RICHARD V. THIRIOT, Utah Amateur Movie Club, Salt Lake City, Utah, for "Navajoland," 750 feet 16mm. Kodachrome.

BERT SECKENDORF, Brooklyn Amateur Movie Club, Brooklyn, New York, for "Indian Summer," 400 feet 16mm. Kodachrome with cued music score on discs.

Receiving Honorable Mention were:
EMIDIO ANGELO, Philadelphia, Penna., for "Portrait Of A Painter," 650 feet 16mm. Kodachrome with cued music score on records.

F. R. BARR, Mission, Kansas, for "The Liberty Bend Channel," 400 feet 8mm. Kodachrome with music and narration on magnetic tape.

EDWARD W. BEACH, Muskegon, Michigan, for "Seeing Is Believing," 400 feet 16mm. Kodachrome.

CINCINNATI MOVIE CLUB, Cincinnati, Ohio, for "Deed to Happiness," 800 feet 16mm. Kodachrome, sound on film, photographed by Kurt Siems.

JOHN F. COWART, Amateur Movie Makers of Atlanta, Atlanta, Georgia, for "Midnight Rendezvous," 600 feet 16mm. black and white.

WILLIAM GENERT, Nashville, Tenn., for "Council Home For Convalescent Children," 800 feet black and white.

OSCAR H. HOROVITZ, Boston Camera Club, Newton, Mass., for "Land Of The Pilgrims," 350 feet 16mm. Kodachrome.

GEORGE KIRSTEIN, Photo Engravers Camera Club, New York City, New York, for "The Chinese Handbag," 750 feet 16mm. Kodachrome.

DICK REED, Los Angeles Cinema Club, Los Angeles, Calif., for "The

Willow Ball," 800 feet 16mm. Kodachrome with music score on magnetic tape.

CASIMER V. ZALESKI, Canton Movie Club, Canton, Ohio, for "Bold Badmen," 600 feet Ansco Color with cued sound recorded on magnetic tape.

"The Voice Of The Key" is a magnificently staged photoplay, beginning with the very professional series of opening titles and featuring remarkable interior photography, considering the limited equipment at the disposal of the filmer. Charles Carbonaro, using photo-floods entirely, has achieved some truly professional illumination in his interior settings, and his camera technique displays an artist's genuine feel for forceful and dramatic story telling with a camera. The story concerns a murder of an unfaithful wife's lover by her husband, and the steps the husband takes to conceal his part in the crime, only to be tripped up by his door key as the incriminating evidence. Carbonaro used a Cine Special Camera and Eastman Super X panchromatic film. The script, which he wrote himself, was adapted from a story published in "This Week," Sunday supplement magazine of national distribution.

"Vacation Highlights," as the title implies, is a record of a vacation trip, but instead of the usual array of catch-as-can shots which make up so many vacation record films, Terry Manos has given this excellently photographed narrative substance by employing inserts of a letter to his wife and daughter, describing his trip, and a number of tie-in shots of the two to knit the whole into a pleasing continuity. The picture is remarkable, not so much from its narrative standpoint as for its consistency in exposure. There is not a measurable difference in exposure in any scene throughout the picture. The picture depicts the start of the trip by automobile, which takes the travelers across the U.S. border into

(Continued on Next Page)



JOHN HARMS
"The Cup Of Fear"



BERT SECKENDORF
"Indian Summer"



JOHN C. SHERARD
"First Date"

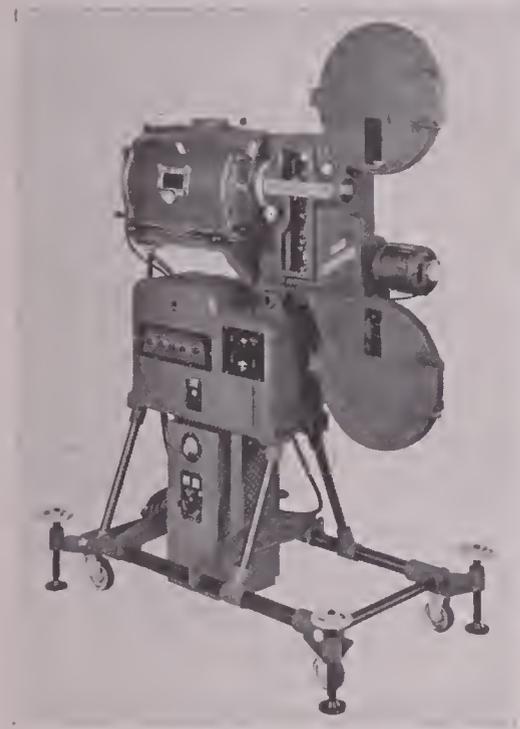


RICHARD V. THIRIOT
"Navajoland"

Mitchell Announces New Professional 16mm Projector

EXTENSIVE research and development which Mitchell Camera Corporation has carried on for some time in the field of projection equipment culminated this month in announcement of the new Mitchell "Giant" 16mm. professional motion picture projector.

Introducing its new concept of 16mm. film projection, Mitchell's new projector



MITCHELL'S new "Giant" 16mm. projector for theatre-quality pictures.

offers optional high-intensity arc or incandescent lamp illumination. It is designed to function with standard 35mm. sound equipment.

The "Giant" frames its picture in the same manner as top professional 35mm. machines, by altering the pull-down of the film by the movement while machine is running.

A precision, one-cycle movement is used to provide the utmost in clear, steady pictures on the screen; the one-cycle movement, according to the manufacturer, allows more light to reach the screen. Another feature permits changing pressure on film at gate while projector is running—a feature found on professional 35mm. machines.

To insure complete protection of mechanism and film, the Mitchell "Giant" is entirely encased. Complete safety features prevent damage to equipment and film. Ball-bearings are used throughout, and precision-cut gear teeth are automatically lubricated by running in oil.

Projector mobile stand is designed to

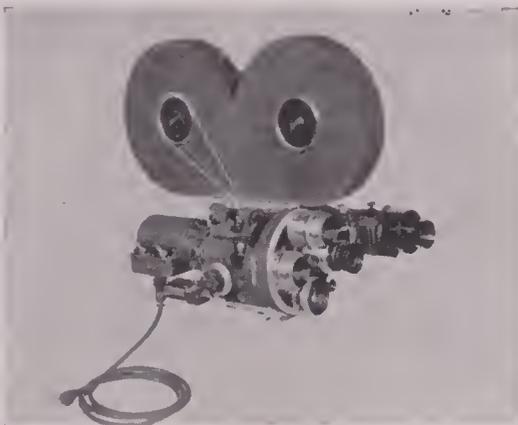
roll through doorways, and is equipped with jacks. It can be tilted up or down.

Two-inch lens is provided projecting a sharp, clear image completely across the screen. Lenses of longer focal length may be used. Projector threads easily and has plenty of finger room. Optional speakers, microphone jacks, turn tables, and other equipment and accessories are available; 2,000-foot reels are used.

Exciter equipment is identical with that used in all 35mm. projectors for sharp, clear sound and long photocell life.

Bell & Howell's New Professional 16mm. Camera

Bell & Howell Company recently announced its model 2709 professional 16mm. camera in answer to the growing demands of the pro-16 field. Camera is an adaptation of the B&H Design 2709 Standard 35mm. model with all the standard features adapted to 16mm. use. These include a 4-lens revolving turret, designed to permit use of all standard



professional lenses; a fixed pilot pin movement mechanism similar to the B&H Unit "I"; a 170° adjustable shutter with automatic dissolve; and adaptability to stop-motion motor for 1-, 2-, or 3-frame operation.

This camera is not intended for use on a sound stage, but is ideal for title, animation and field work where exact film registration and rugged construction is of utmost importance.

The shuttle incorporates pilot-pins that are an integral part of the mechanism containing the aperture plate. A dual-action driving cam moves the film both vertically and laterally, the grooved portion of the cam actuating the register leaves to move the film on and off the pilot and shuttle pins.

AMATEUR FILM AWARDS

(Continued from Page 133)

Canada, and thence through the province of Quebec. On the return trip they visit such interesting sights as a wood pulp mill and the famed Ausabel Chasm, in upper New York. The camera treatment of the pulpwood sequence and of the Chasm scenes definitely mark this filmer as a photographer of promise. Manos used a 16mm. Bolex camera and Kodachrome daylight type film.

"Overdose," filmed by Francis J. Barrett, of Seattle, Washington, is an expertly photographed dramatic photoplaylet, done in 8mm. black and white. The story concerns two young men sharing a room together. One, a writer, is upset by annoying tactics of other who, sensing this, plans to put his friend out of his misery. He brings him a cup of coffee to which he has added sleeping tablets. A fight ensues and the other strikes his benefactor down with an ashtray. It is then he discovers the sleeping pills are not fatal.

The plot is simple, but the acting is expert, and complemented by the dramatic low-key lighting and highly effective camera handling, presents a very professional bit of cinematic artistry. Barrett used a Bell & Howell 8mm. "Sportster" camera and Ansco Hypan film.

"The Wolf's Tale," is another of those clever 8mm. movies for which George A. Valentine, Glenbrook, Connecticut, movie maker has become nationally famous. This time, Valentine tells the story of how a man received a black eye and numerous contusions at the hands of his wife, who, having come upon his diary, discovers him in a flirtation with a beautiful red-haired damsel. Valentine's flair for telling a humorous story on the screen with the aid of skillful cine photography and film editing, easily earned for him the trophy award in the 8mm. color film class. Valentine employed a Bolex 8mm. camera and Kodachrome film.

In the Certificate Awards group, Ralph E. Gray, a consistent winner in national film competitions and recently honored with the title of Leading Amateur Movie Maker of the nation by the Movie Makers Club of Oklahoma and associated cine clubs, has turned in another of his superb filming jobs in "Glamorous Guatemala." A highlight is the excellent titling job, a department of movie making in which Gray excels.

Gray opens his picture with scenes of modern day Guatemala, then gradually leads us into more remote areas of the country where he shows the native Guatemalan at work and at play, harvesting coffee, weaving, and trucking his wares

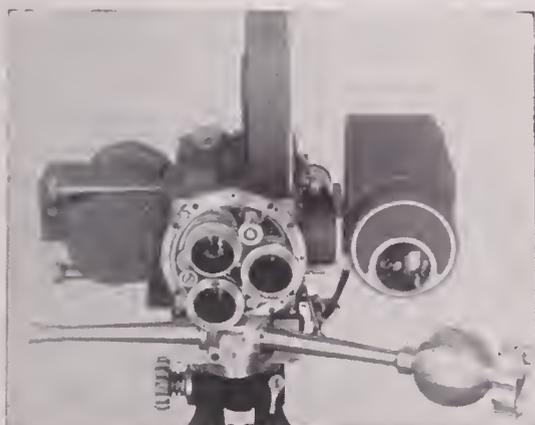
to market, or indulging the religious ceremonials and market day festivities, which comprise his chief diversions. Gray filmed his picture using a Cine Special and Kodachrome film.

Andy Potter, of Los Angeles, also made this group with his dramatization of James Whitcomb Riley's well known poem, "The Raggedy Man." The title role expertly handled by an unidentified player, is enhanced by Potter's interesting camera technique. More pointed editing, both at the camera and at the editing table, would have put this film nearer the top of the list of winners. Using Kodachrome film, Potter photographed this picture with a Bell & Howell "Companion" camera.

"First Date," by John C. Sherard, records the trials and tribulations of a teen-age young man on his initial date, where the girl's younger sister and brother inject themselves along with some trained fleas for some hilarious moments. A standout feature of the photography is Sherard's expert use of blue filters to obtain realistic night shots in daylight

(Continued on Page 145)

Follow-focus Attachment



Fits any turret-equipped camera

AN EFFECTIVE lens follow-focus mechanism, designed and engineered especially for professional 16mm. cameras by Richardson Camera Company, 1065 North Fairfax, Hollywood, has been successfully tested by the Raphael G. Wolf Studios, producers of industrial films.

Attachment, adaptable to any multiple lens turreted camera, involves unique synchronized gear system, coupled to parallax view-finder actuated by a single control. As each lens is shifted into place, cam automatically corrects finder for parallax.

Focusing knob and footage dial assembly is detachable and may be operated from either side of camera. Another important feature permits all normal rack-over operations without disengaging or removing linkage with follow-focus attachment.

Portable Dolly For 16mm Cameras

May be assembled or knocked down in ten minutes; provides seats for camera operator or assistant.

PROFESSIONAL 16mm. film producers, movie amateurs, and movie club filming groups will find interest in a new, lightweight, portable camera dolly that offers many interesting features.

Constructed of durable aluminum tubing, this new accessory affords very professional camera movement in either studio or location filming.

Any standard professional camera tripod may be mounted on the dolly. Two upholstered seats are provided — one for the cameraman and one for use by director, script clerk or camera assistant — a feature adopted from the large camera dollies used in major studios.

Mobility is facilitated by swivel-mounted rubber-tired casters which permit dolly to glide smoothly over studio floor or in dolly tracks. With two persons and camera on dolly, it may be moved by a single assistant pushing or pulling on handle at rear.

Attractive to the traveling cameraman is portability feature which makes it possible to knock down or set up dolly in ten minutes. Key to this feature is manufacturer's use of Nu-Rail pipe fittings fabricated by Reynolds Metals Co. Fittings require no threading or welding, but secure tube ends by set screws.

Weighing but fifty pounds, dolly may be carried in automobile trunk compartment.

Manufacturer is Cinema Products, Box 271, Louisville, Kentucky.



SWIVEL SEATS provide comfort for cameraman and assistant or director.

Eastman Kodak Shares Safety Film With Dupont

TO HELP THE motion picture industry to obtain an adequate supply of safety film, Eastman Kodak will sell some of its new safety film base to Du Pont, the Kodak company announced yesterday. Eastman worked for years to produce its present commercially successful 35mm. safety film, which was announced in 1948. Edward P. Curtis, Kodak vice-president, said in a statement: "For a long time our scientists worked to produce a safety base for professional motion picture films. The base we have finally developed is known as triacetate. Commercial tests have indicated that it meets the strict standards of professional studio and theatre use. The motion picture industry has welcomed this new base. It means greater safety for all who take, store or exhibit professional motion pictures, and, of course, the theatre-going public. To make sure the professional motion picture industry will have an adequate supply of the safety film it desires we will furnish Du Pont with some of our safety base.

"We are selling to Du Pont temporarily (until DuPont has developed its own new type of safety film) because we believe the sale will benefit the public interest by helping to speed up the long hoped-for conversion of theatre motion pictures to universal use of safety film."



USE of Nu-Rail fittings permits knockdown or reassembly of dolly in ten minutes.

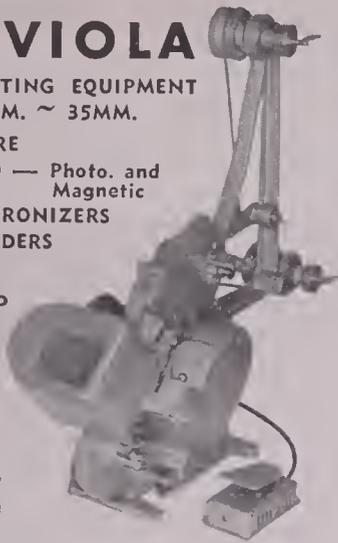
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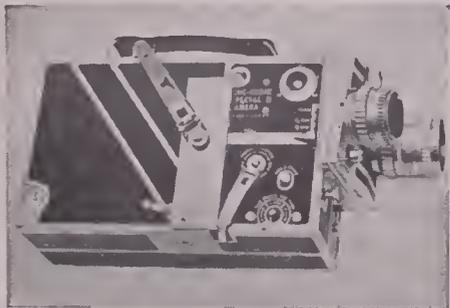
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FILMING IN AFRICA

(Continued from Page 123)

the Masai are moody and violent, given to sudden bursts of homicidal fury.

For one scene we carefully explained that we wanted them to charge directly at the camera, brandishing their spears. As none had ever seen a motion picture, it was quite impossible to make them realize that they were to enact only a mock battle. So I was a bit nervous when we started the camera.

They did wonderfully for half of the scene. Then all of a sudden they changed their pace, and made it an actual battle. With hysterical frenzy they let fly a barrage of spears at the camera. Luckily, none of our personnel nor equipment was damaged. Two of the spears glanced off my sun helmet, as I rather ingloriously deserted my camera for safer quarters!

In spite of their brutal tendencies, however, the Masai are not without a certain wry sense of humor. We were alarmed one day to hear that a herd of elephants had smashed through the Masai's village, crushing one of them to death. On investigating, we were surprised to find all the natives wreathed in smiles. The dead man, it turned out, was the local money lender.

The Masai caused us a lot of trouble when we returned to do retakes with them months after we had shot the original scenes. We had used ten Masai warriors in October. We now tried to get the same ten for added scenes. When we proceeded to make arrangements with the British Commissioner to use the men, he explained but five were available—the other five having died. Four had been killed fighting among themselves and one hanged by the authorities for murder.

As for the danger encountered from wild animals, my most memorable experience occurred during a preliminary survey for locations months before actual production began. It occurred on the banks of the Victoria-Nile river, not far from a beautiful waterfall. Enroute back to our launch with a group of our people, I was fascinated by the sight of scores of hippos bathing in the turbulent water at the base of the falls. I strayed from the others and clambered upon a large rock to get a better view. And here I experienced the greatest fright of my life.

Lying atop this rock was a huge coiled snake. I almost stepped on it, then jumped down from the rock, frightened stiff. I heard a terrific hissing and spitting sound. I looked back toward the rock just as a rifle shot rang out, followed by the "ping" of a bullet ricocheting over my head. I ducked. When I looked back toward the rock again, I saw the

snake, now almost standing erect and showing a large hood-like neck. Suddenly he hissed and seemed to spit a stream of dark liquid from his mouth that missed me by inches. There was another rifle shot that shattered the surface of the rock, sending fragments flying that startled the snake and sent him scurrying down the rock and away toward the river.

As I stood there shaking, too frightened to move, one of our white hunters came running towards me and asked if I were alright. I assured him I hadn't been bitten and asked what kind of a snake had appeared on the rock.

"Only a cobra," he said, and I thought I detected sarcasm in his voice.

I really felt faint. He continued: "Not like the cobras of India. These are African spitting cobras." He explained that they not only bite but can spit poisonous venom a distance of ten to twelve feet with deadly accuracy, causing blindness if it gets into a victim's eyes, and almost instant death if it gets into an open sore or wound. Rather nastily, I thought, the hunter admonished me to keep with the others in the group, thereafter, and not to stray away.

We boarded our launch, and as we continued down the Nile, I watched the hippos and the crocodiles and reflected on my experience with the cobra. I had come to peaceful Africa to photograph a story, and had encountered charging natives, belligerent elephants, and deadly spitting cobras—dangers almost equaling that of crossing busy Hollywood Boulevard against a traffic signal!

NEW HORIZONS FOR 16MM. FILMERS

(Continued from Page 131)

far from ideal, one must learn to estimate exposure accurately; for more often than not, there is little time for taking exposure readings with a meter. This, again, is a matter of practice. It is a good idea to standardize on one basic medium-speed emulsion and to become acquainted with the speed and latitude of that film, so you can hit an exposure within one or two stops. In black-and-white filming, at least, the latitude of the film will compensate for a certain amount of error. If you are one or two stops off, you will still have an acceptable image.

The continuity of the news film, like the photographic technique, should be kept simple. The most fool-proof approach is to use the basic sequence formula which newsreel cameramen have been following for years—and which consists of a long shot, medium shot,

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close up, and re-establishing shot. The long shot establishes the locale, the general situation, and the mood of the sequence. The medium shot narrows the audience's attention down to the main action. A closeup brings the eye even closer to catch the small details which are meaningful or important. The re-establishing shot serves to remind the audience once more of the general situation so that there is no confusion as to orientation.

The ideal equipment for one who wants to specialize in making newsreel films is a hand-held 16mm. camera with a turret accommodating three lenses of varying focal lengths. A camera holding a 100-foot roll of film has the advantage of accommodating two and a half minutes of action (filmed at sound speed without the necessity of stopping frequently to reload). The magazine type 16mm. camera holding 50 foot magazines, on the other hand, can be loaded very rapidly, must be loaded twice as often, and is also somewhat more expensive to operate from the film standpoint. Either type of camera is acceptable, however, as long as it has adequate lenses and is of a shape and size that makes it easily hand-held.

We emphasize the hand-held feature because it is often impractical from the

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standpoint of mobility, to set up a tripod. More often than not, the cameraman will have to run around in and out of the situation, moving from one vantage point to another with speed and accuracy. In operating the hand-held camera, however, steadiness is of paramount importance, and there are a few steps which will aid in this respect.

First, learn to hold the camera so that you have it securely in hand and so that it rests firmly against your forehead or the side of your face; hold it in such a way that your arms, braced against your body, form a natural tripod. Second, learn to hold your breath while the scene is actually being filmed, so that your breathing motion does not cause a wavering effect in your photography. Third, learn to utilize nearby objects, such as trees, fences, etc., as stationary supports against which to brace the camera.

In static situations, it is often possible to set the camera on a tripod in one central location and adequately cover the situation by "flipping" from one focal length lens to another—in this way achieving the best continuity formula without moving the camera. There will necessarily be a slight gap in continuity while you are flipping lenses, but this can be "covered" in editing if you have taken the precaution of filming suitable *cut-away shots*. A *cut-away* shot is a scene which literally cuts away from the main situation to show some other phase of related action. For example: in the filming of a football game, shots of the spectators, cheer-leaders, and the band playing would all be considered cut-away shots in relation to the game itself, and could be used very nicely to cover jumps in time and action. In filming any news story, then, be sure to protect yourself with suitable cut-away shots.

Remember that the function of the newsreel is to inform the audience as to the facts of a situation. This means that closeups assume even greater importance than usual. The obvious error of the inexperienced cameraman is to include too many medium shots and not nearly enough closeups. Do not be afraid to move in close, either by shifting your camera or by using your telephoto lens.

In the heat of a newsworthy situation, it often is difficult to move about exactly as you would wish or to get in as closely as you would like. You can usually facilitate matters by obtaining in advance a press or police pass which will permit you to enter restricted areas for filming. Where the situation is so chaotic that it is impossible to get a good vantage point on the ground, get up on a nearby building or other elevation, and shoot down, using your longer focal lenses for the necessary close-ups. Where the situation is of a violent nature, such as a labor dis-



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order or riot, where there exists the danger of having your camera smashed, it is best to stay inside a house, building, or other enclosure where your equipment can be concealed, but where you can shoot out of a window or doorway to obtain the desired footage.

When filming parades, conventions, and sporting events, an ideal arrangement is to use two cameras if they are available. One should be set up on a tripod in a central location from which the main situation can be adequately covered by using your different lenses. The other should be a hand-held camera which an assistant can use for running around to shoot cut-away shots and such. This arrangement insures not only better continuity, but an interesting variety of shots.

INSERTS AND EFFECTS FOR TELEVISION SHOWS

(Continued from Page 124)

away. Obviously, the only really satisfactory way to bridge this transition is to film a scene in which the actor actually gets into his car and drives away, this scene being dissolved in and out precisely on cue between the two live scenes.

Often, in a television dramatic script it is necessary to show the same character appearing immediately in consecutive scenes but in a different location and wearing different wardrobe or makeup. The difficulties of getting the actor out of one costume and into the other with the addition of special makeup, in time to appear almost immediately in the next scene, are obvious. In this case, it would be highly advisable to film the second scene, even though it takes place on a set that could be conveniently established in the studio.

In the special effects field, the use of film in television is practically limitless. Even as prosaic a program as a newscast can be enlivened by the use of motion pictures made of various angles of a teletype machine. These scenes can be threaded onto a loop projector and run constantly throughout the newscast. At selected times, the engineer would superimpose scenes of the teletype over the visual image of the newscaster and at other times allow them to dissolve through clearly onto the screen so that the views of the newscaster would be played against a background of typical "newsroom" scenes. In this footage might be included scenes of a news staff assembling material for a program, close-ups of hands tearing a dispatch from the teletype, shots of a news analyst receiving news tips over the telephone, etc. Such scenes, properly dissolved in and out, add variety and interest to a newscast which

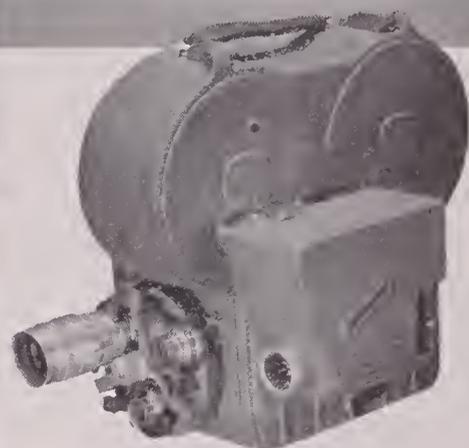
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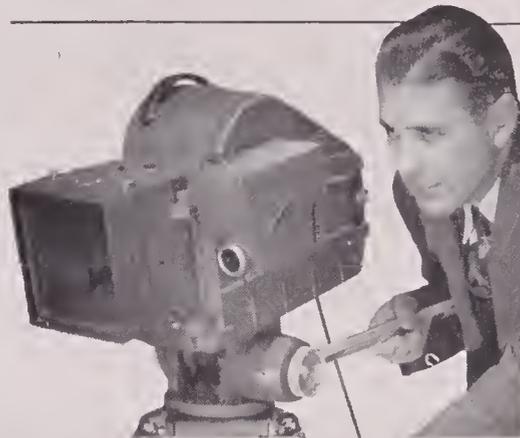
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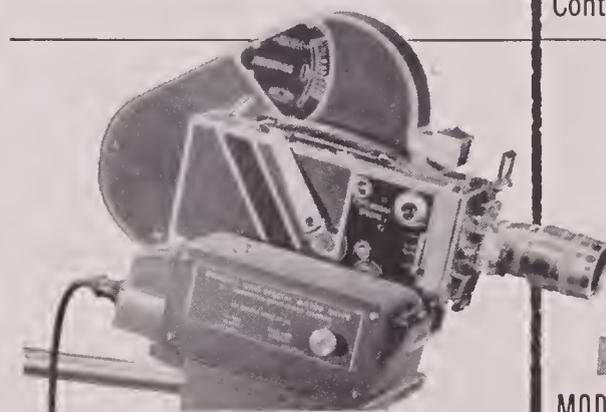
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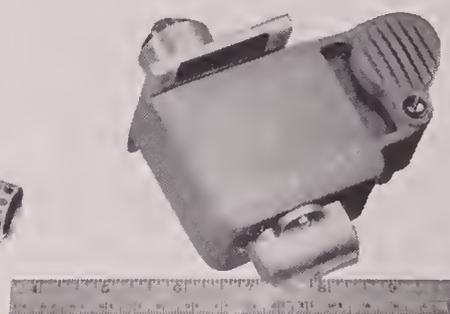
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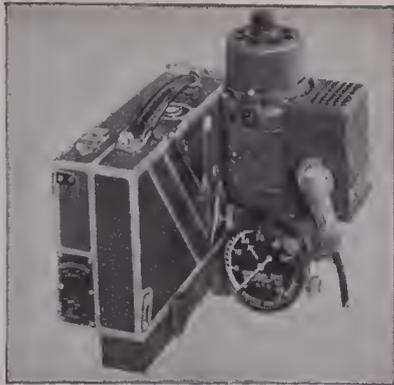


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sometimes becomes static if one is forced to look at a news analyst reading reports for a period of five to fifteen minutes at a stretch.

The above technique can be applied even more cleverly to a sportscast. Either the material can be of a general variety relating to the sport being discussed (purchased from a stock library or filmed at local sporting events), or it can relate to a specific sporting event filmed by a local cameraman and described play by play by a live sportscaster at the studio. To achieve this effect, you would begin with live scenes of the sportscaster building up to the particular event, and then dissolve to the event itself. The sportscaster would follow the game by means of a silent visual monitor placed on the set, thus enabling him to give an accurate and well planned play-by-play description of the event. With rapid film developing facilities available in many cities, such sporting events can be telecast and analyzed either later in the same day on which they occur, or the next day. Such a program would be especially valuable to stations which do not have mobile equipment for the telecasting of local sports, or for others who wish to edit such events so that only the highlights are shown.

Dramatic special effects for television can be neatly accomplished with a motion picture camera and combined effectively with live action telecasts. For example, dream sequences, hallucinations, day-dreams, etc., can be achieved by superimposing specially filmed scenes or montages over the face of a live player. Similarly, a player can be shown playing opposite himself, as is sometimes required in comedy or fantasy scripts. In such a case an entire scene may be put on film by means of double-exposure, or, by means of proper framing, the film character can be placed on one side of the screen and the live character on the other, their interplay precisely synchronized through rehearsals. In fantasy sequences where a character is supposed to appear greater or smaller than normal size in relation to another character, film is again the answer. Flash-backs involving a particular character can be dissolved in by means of film while the live player is introducing that sequence by his narration on camera, the narration to continue over the flash-back scenes in which he also plays a prominent part.

Obviously, there are certain mechanical and economical features to be considered in the application of special film material to the live television shows. In most cases, the simplest motion picture equipment can be used to film silent scenes which are needed. If the cost of new equipment is prohibitive, then used equipment will function equally well.

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Footage of foreign locales is best purchased from film libraries; but scenic local material should either be filmed especially for the feature, or borrowed or purchased from local camera enthusiasts who have previously filmed such material.

Where film is to be used to complement live scenes in dramatic productions (and where budget permits), it is a wise idea for the studio to have its own single system sound camera, which records the picture and sound track on one strip of film. The film may be processed by the reversal method and placed on the projector after this one simple developing process. Such camera equipment is no longer prohibitive in cost, since there are now available on the market several low-priced single system cameras.

For the selection of stock footage and in the shooting of special footage, it is advisable to try to obtain only films of good technical quality, sharply focused and well-exposed. Film of this type can be dissolved smoothly between live sequences without any apparent change in quality which would lead the viewer to realize that he is viewing film in some sequences. Here again the old adage applies that when the mechanics of a technique call attention to themselves, the technique is a poor one. Properly used, motion picture film can free the television medium of its spacial and transmissional limits, thus helping it to grow in stature not only as an entertainment medium but as an art form as well.

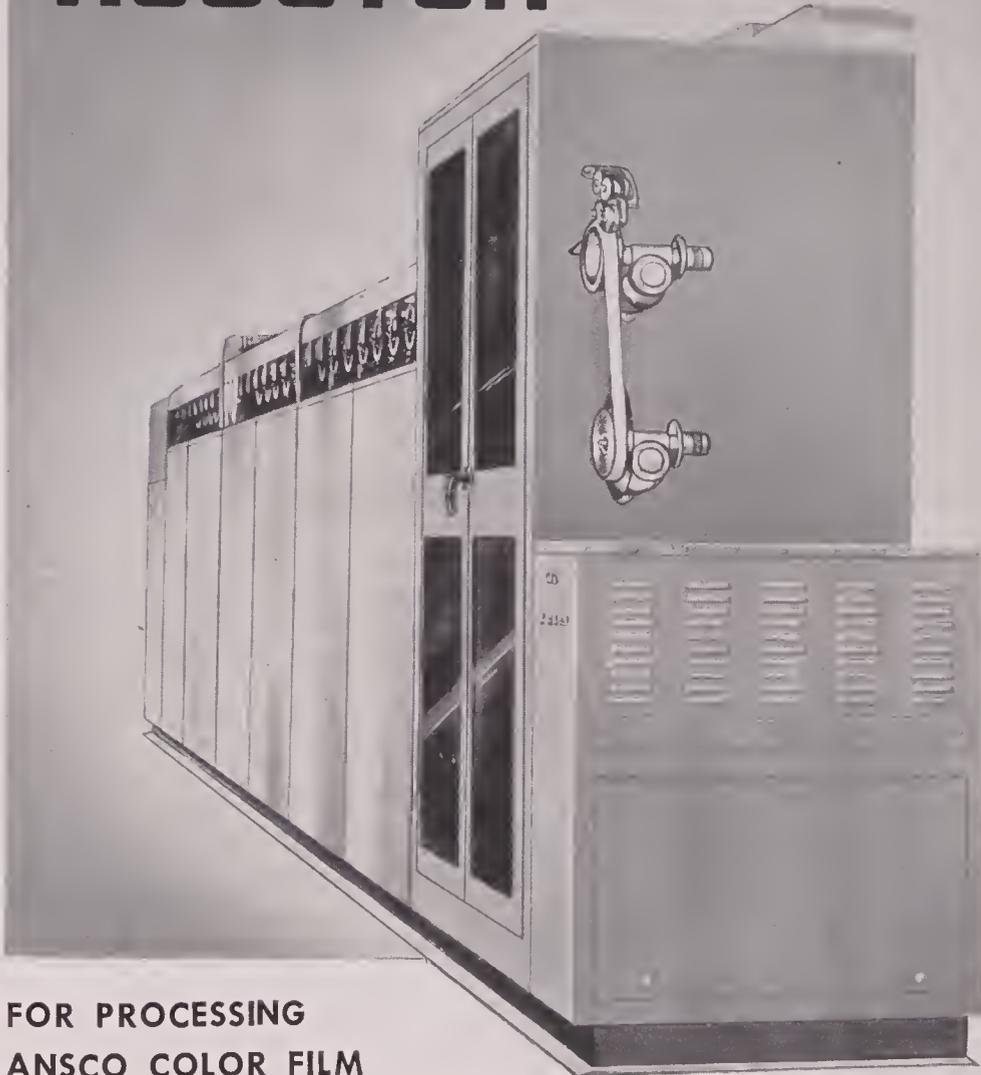
EDITING 'A' AND 'B' ROLLS

(Continued from Page 126)

symbol on the work print indicates an "effect" such as a dissolve, for instance. (Line 1, Fig. 1). Where the two work print scenes are spliced, do *not* cut off the outgoing original scene. Allow it to extend 24 frames beyond the work print splice (Line 2, Fig. 1). Now, match the incoming original scene to the work print, but instead of cutting it off opposite the work print splice, extend it 24 frames to precede the work print splice, cutting off the leader accordingly. (Line 3, Fig. 1). This brings up the important point of being sure to cut out of the work print, when editing, the 48 frames for each dissolve, thus making sure that the original is long enough to extend the required 24 frames each way from the work print splice. This dissolve "switch-over" from "A" roll to "B" roll results in a 48 frame overlap of the two scenes, opposite the work print symbol. (Lines 1, 2 and 3, Fig. 1).

Now, proceed to match and attach successive scenes to the "B" roll, with

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the white leader now continuing on the "A" roll. When the next dissolve symbol appears on the work print, switch-over again to the "A" roll with the same overlap of 48 frames as before. This procedure continues for the entire reel, so that some original scenes are on the "A" roll, others on the "B" roll, with white leader filling out the opposite roll. Hence a 400 foot reel of work print will be "matched" with two rolls ("A" and "B") of original scenes.

In making the release print, first the "A" roll is printed the full length, but the printer light is cued so that exposure is made only in the sections where the scenes are assembled, the light source fading out where leader is in the roll. Then the roll of partially exposed duplicating film is rewound, and threaded up again to the same punched starting sync mark as used when printing the "A" roll scenes. Then, the "B" roll is threaded into the printer, in contact with the roll of duplicating film, and the "B" roll scenes are printed. This time, the printer light fades on to print "B" roll scenes, which will be printed in sections of the roll of duplicating film where no exposure was made over the leader portions when previously printing the "A" roll. Where the 48-frame dissolve overlaps occur, one scene fades out while the next scene is appearing. This coming and going double exposure, achieved by overlapping two fades, results in the dissolve effect planned.

Fades between scenes can be printed in two ways: first, by switching over from "A" roll to "B" roll. (Lines 2 and 3, Fig. 2). This assembly method is advisable, as it clearly indicates to the printer that a fade is planned, and also, it enables a variable length of all-black in the print, between the fade-out and fade-in. (Lines 5 to 8, Fig. 2). With the second fade method, (Lines 1 and 2, Fig. 3), scenes on the same roll can be cued to fade without switching over "A" to "B." This requires advising the laboratory that a fade is desired, usually indicated by temporarily attaching a piece of tape across the splice between the two original scenes, with the word "fade" on the tape. The first method is simple and variable.

Several "tricks" are possible when using the "A" and "B" roll method. So that a title can be printed or super-imposed over an action background, for instance, a title with white letters over a black background can be cut into the leader in the roll opposite the scene over which the title is to be printed. White lettered titles are desirable, but the letters should be positioned to occur over a darker part of the scene, for proper contrast or legibility. Brilliant colored letters can be used, depending upon the additive effect when combined with whatever col-

or is predominant in the section of the scene over which the title is to be printed. Other superimposures are possible, such as arrows appearing to emphasize a situation within a scene.

Another deviation of the superimposing title procedure is to splice about 30 frames of black leader to the head of the title, so that the printer can fade-in over the black leader, thus causing the title to cut-in instead of fade. With a little practice and ingenuity, the 16mm. film editor can "A" and "B" many clever effects. Sometimes "C," "D" and "E" rolls are also assembled to achieve almost unlimited multiple exposures or "montage" sequences. Opening titles, for instance, can each be dissolved "A" to "B" while action background scenes are simultaneously dissolving on "C and D" rolls.

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A clear understanding of the various "A and B roll" procedures enables the 16mm. editor and producer to avoid the limiting camera-dissolves and camera fades, thus assuring the uniformity and versatility of scene transitions.

Figure 3 also illustrates standardized procedure of labeling and preparing 16mm. film leaders, locating sync marks, etc. Copies of these three editing charts are available.

PICTURE OF MONTH AWARDS

(Continued from Page 114)

their filming or any new techniques developed. Short talks by the cameramen are scheduled before each screening. Thus the awards program has educational as well as incentive value.

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ANNUAL AMATEUR AWARDS

(Continued from Page 135)

with Kodachrome film. Sherard used a Cine Special camera.

"Navajoland," entered by Richard V. Thiriot, of Salt Lake City, is a travelogue on that part of the great Southwest where dwell the dwindling and not-to-well-off Navajos. Thiriot has caught the beauty of this colorful country with his camera and Kodachrome film, and concludes the picture with intimate shots of some of the Indians who inhabit Navajoland. Had Thiriot been able to schedule his filming during the stormy weather season and thus been able to capture the colorful skies abounding in Navajoland at that time of year, his photography would have greater pictorial interest, highly necessary where subject material is predominantly static. Thiriot used a Filmo 70-DA and Kodachrome film.

"Cup OF Fear," produced and entered by the Stamford (Connecticut) Cinema Club and photographed by John Harms, is a well directed, acted and photographed "whodunit" in which one of several office employees who have been passed up in a company promotion, murders the hapless executive promoted to the vice-presidency. A cup of wine, antidote for poison supposedly fed the mur-

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derer at a dinner, proves his undoing. All shots are interiors and save for one or two, are excellently lighted and photographed. Many professional touches, such as dolly shots, dramatic camera angles, and story-telling closeups highlight the picture. Harms used a 16mm. Bolex camera and Kodak Super-X panchromatic film.

"Indian Summer," properly may be termed a poem on film. Bert Seckendorf took his camera into the great outdoors one autumn day and photographed many beautiful autumnal scenes which he then skillfully knit together in a smooth flowing pictorial continuity. Scenes of colorful autumn foliage, falling leaves, blue Indian Summer skies, lazy rivulets carrying tiny sailboats of leaves toward the sea — all add up to an impressive ten minutes of screen entertainment. Seckendorf photographed this picture with a Cine Special and Kodachrome film.

Limited space precludes a description of the films receiving Honorable Mention. However, all have demonstrated a desire for serious accomplishments in film making and the contest committee believes their subsequent work will reflect considerable improvement.

To these filers, and to all movie amateurs, everywhere, we extend a cordial invitation to participate in American Cinematographer's 1951 Competition, when leading directors of photography of Hollywood studios will again judge and nominate for awards those films displaying the best amateur movie making skill.

CURRENT ASSIGNMENTS

(Continued from Page 118)

Douglas, Walter Slezak and Philip Dorn. George Sherman, director.

• WILLIAM DANIELS, "Winchester 73," with James Stewart, Shelly Winters, Dan Duryea, Stephen McNally. Anthony Mann, director.
• CHARLES BOYLE, "Saddletramp," with Joel McCrea, John McIntyre and Jeanette Nolan. Hugo Fregonese, director.

• RUSSELL METTY, "Desert Hawk," (Technicolor) with Yvonne DeCarlo, Richard Greene, Lois Andrews and Lucille Barkley. Frederick de Cordova, director.

Warner Brothers

• SID HICKOX, "Lightning Strikes Twice," with Richard Todd, Ruth Roman and Mercedes McCambridge. King Vidor, director.

• CARL GUTHRIE, "Two Million Dollar Robbery," with Steve Cochran and Gaby Andre. Andrew Stone, director.

• WILFRID CLINE, "Sugarfoot," with Randolph Scott, Adele Jergens, Raymond Massey, S. Z. Sakall, and Hugh Saunders. Edwin L. Marin, director.

• WILFRID CLINE, "Tea For Two," (Technicolor) with Doris Day, Gordon MacRae, Eve Arden, and S. Z. Sakall. David Butler, director.

• TED McCORD, "The Breaking Point," with John Garfield and Patricia Neal. Michael Curtiz, director.



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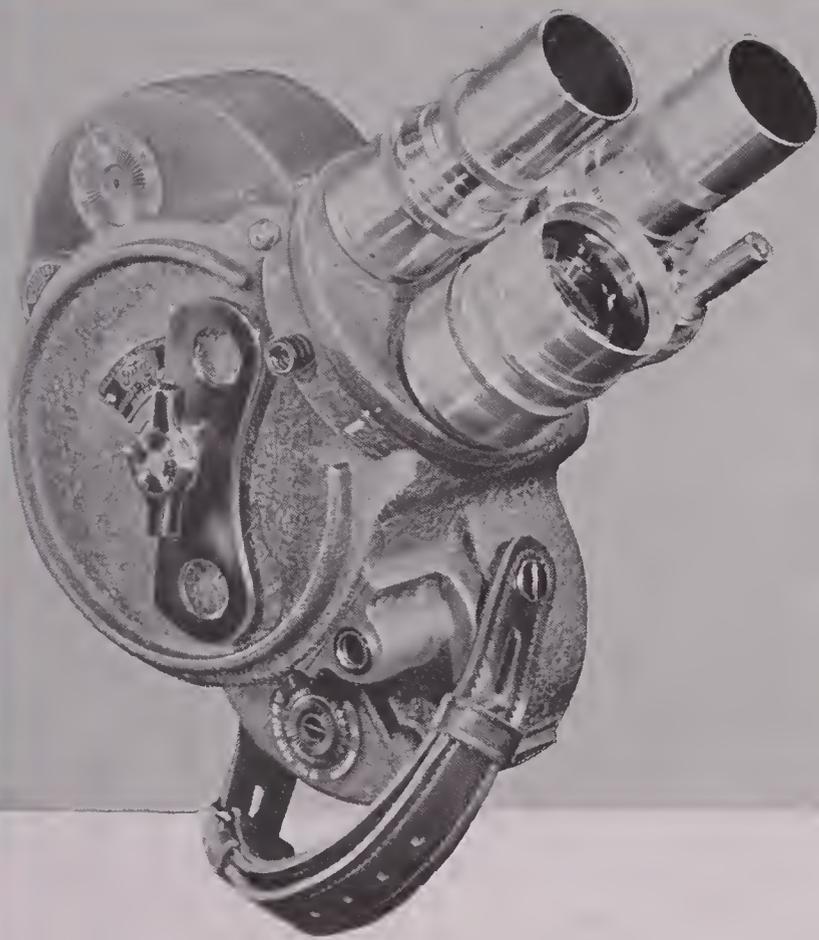
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NO. 5

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ON THE COVER

DIRECTOR of photography Charles G. Clarke, A.S.C., and some of the production crew who worked tirelessly seven days a week for months in Germany in order to make authentic on-the-scene shots of the Berlin Airlift for 20th Century-Fox's "The Big Lift." In foreground, from left to right, are George Seaton, director; Clarke; Louis Kunkle, operator; and actor Paul Douglas. Seated in right foreground is Erich Kuechler, German assistant cameraman. Clarke's own personal story of filming "The Big Lift" appears in this issue, beginning on page 158.

—Photo courtesy U.S. Army Air Force.

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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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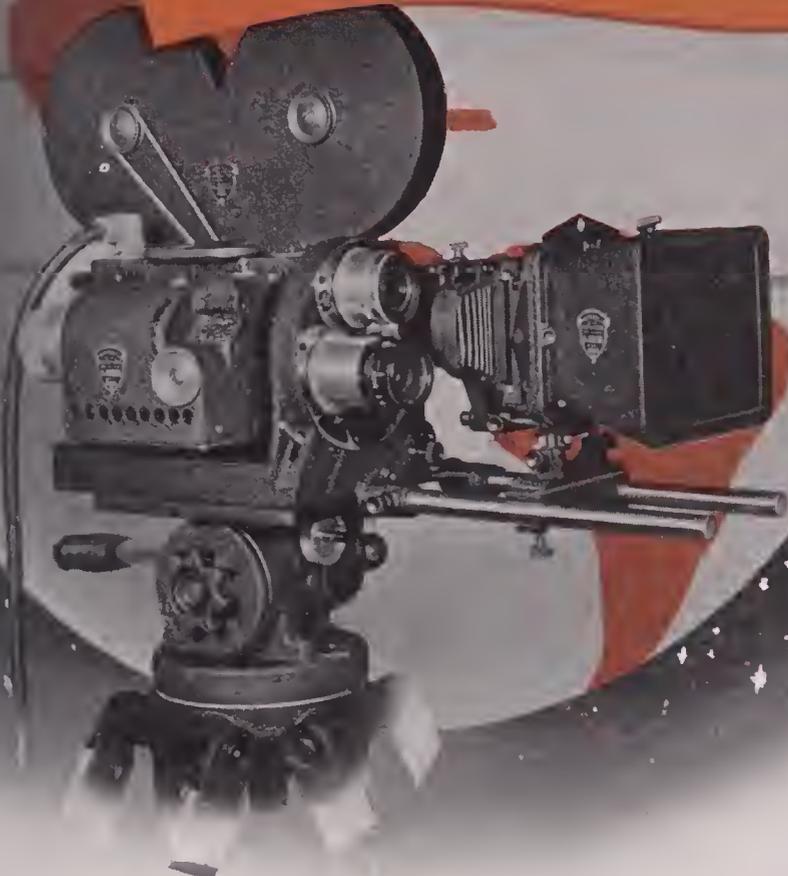
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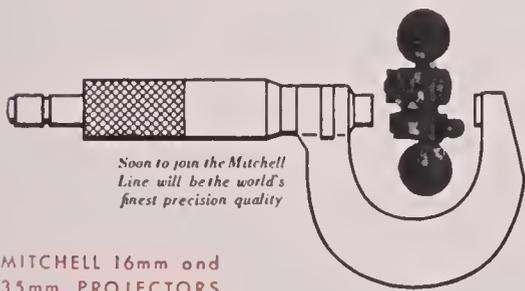
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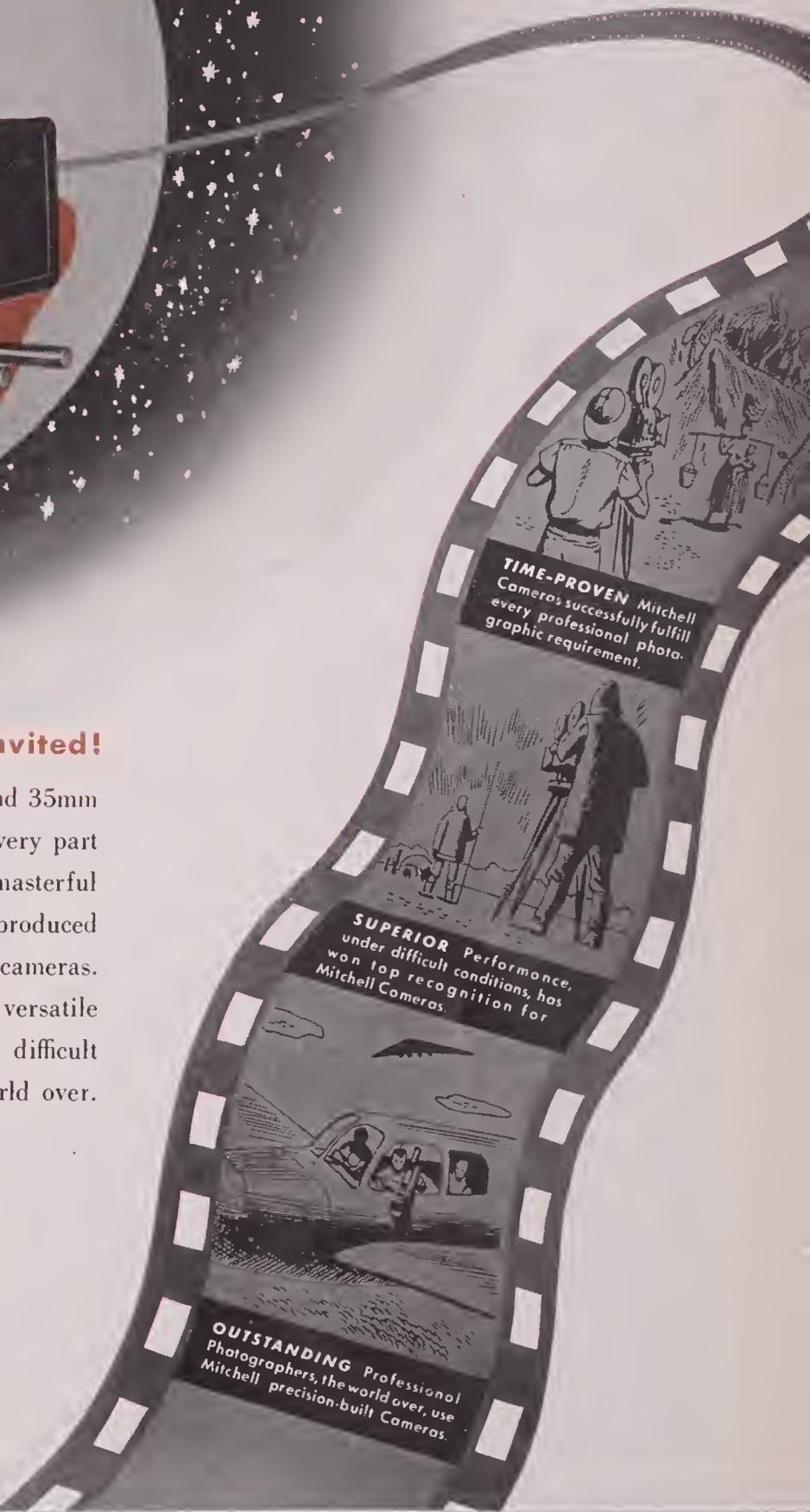
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Hollywood Bulletin Board

Ray Rennahan Elected A.S.C. President

Hal Mohr, Alfred Gilks, John Boyle and Charles Rosher also elected new officers of the Society for 1950-51.



RAY RENNAHAN
New President

new officers elected are Hal Mohr, second vice-president; Alfred Gilks, treasurer; John Boyle, secretary; and Charles Rosher, sergeant-at-arms. Re-elected for another term are Fred Jackman, executive vice-president; Arthur Edeson, first vice-president; and William V. Skall, third vice-president.

The board of directors for the coming year — in addition to the officers named above — will include Charles G. Clarke, George Folsay, Lee Garmes, Victor Milner, Sol Polito, Leon Shamroy and Joseph Walker. Board alternates are John Arnold, Sol Halprin, Milton Krasner, Arthur Miller and John Seitz.

Ray Rennahan assumes the presidential chair of the Society well qualified to carry on with the progressive program instituted under the leadership of retiring-president Clarke. Having served as secretary since May, 1945, Rennahan has worked closely with Society officers for the past five years and has contributed much in sound thinking toward the progressive planning of the Society which has resulted in the completion of such projects as modern projection facilities in the clubhouse, the Picture Of The Month awards program, etc.

A cinematographer since 1921, Rennahan joined the A.S.C. in 1938. He is

one of Technicolor Corporation's ace directors of photography, and currently is in Hawaii, directing the photography on the second unit of M-G-M's "The Pagan Love Song."

A two-time Academy Award winner, he received an Oscar in 1939 for the Technicolor photography of "Gone With The Wind" in association with Ernest Haller, A.S.C. In 1940 he was awarded another Oscar for his direction of Technicolor photography of "Blood And Sand," in association with Ernest Palmer, A.S.C. His cinematographic artistry also left its mark on such outstanding motion pictures as "Chad Hanna," "Victory Through Air Power," "For Whom The Bell Tolls," "The Three Caballeros," "Duel In The Sun," "The Perils of Pauline," "The Paleface," "A Connecticut Yankee," and others.

In a note of acceptance to the Society, following news of his election cabled him in Hawaii, Rennahan said: "I am deeply honored that my fellow members have chosen me president of the Society, and happy that I shall continue working with virtually the same men who have served as officers and board members for the past two years. Working harmoniously together, we have accomplished many important things for the Society during the past year and I am sure, that by continuing this cooperation, we shall forge ahead to greater accomplishments."

The Board of Governors, in unanimously reelecting Fred Jackman vice-president for the seventh consecutive year, reaffirmed the Society's confidence in Jackman's ability to direct the Society's business affairs. Although Jackman long ago retired from directing motion picture photography, he continues one of the cinematographers' strongest champions and has worked tirelessly with Charles Clarke in establishing the Society's program of Picture Of The Month awards as a means of obtaining wider recognition for the work of Society members.



CHARLES CLARKE
Retiring President

DEWEY WRIGLEY, A.S.C., veteran director of photography, died suddenly at his home April 20th, following a heart attack. He was 52 years of age. A cinematographer for the past 30 years, he had been with Paramount Pictures since 1932. He was preparing to leave for Japan, at the time of his death, on a temporary assignment for 20th Century-Fox.

Serving as Lt. Commander with the U.S. Navy during the war, Wrigley received several decorations and citations for his work under fire, including two Purple Hearts. He was the Navy photographer who recorded events as the Japs signed Armistice terms on the U.S.S. Missouri.

Surviving are his wife, Amelie; a son, Dewey, Jr., and a daughter. Burial was at Forest Lawn, in Glendale, April 26.

PAUL MANTZ is piloting camera plane which Tom Tutwiler is using in filming aerial shots for R.K.O.'s "Jet Pilot."

JOHN SEITZ, A.S.C., is being smothered with accolades for his superb cinematography of Paramount's "Sunset Boulevard," rated by reviewers as ranking among the all-time picture greats. Accordingly, a picture to tab for Academy Awards.

JOHN BOYLE, A.S.C., will go to Japan to fill cinematographic assignment for 20th Century-Fox vacated through the untimely death of Dewey Wrigley.

RAY FERNSTROM, A.S.C., whose inventive mind is ever at work, between cinema-

(Continued on Page 171)

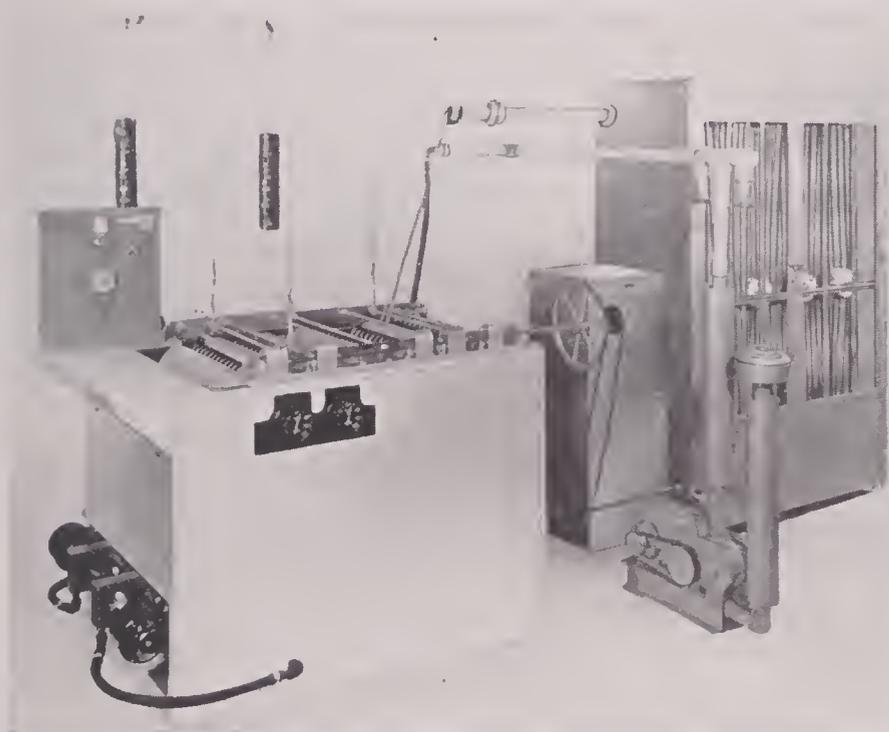
CORRECTION

An item in this department last month stated that Karl Freund had resigned from Warner Brothers "to devote all his time to managing the affairs of his Photo Research Corp., in Burbank." Karl has since informed us that he has resigned from Warners, but *not* from directing photography. While he will continue to direct the affairs of his growing photo products business, which specializes in developing new and advanced aids to motion picture photography, henceforth he will freelance as a cameraman, making his expert services available to any and all studios.—EDITOR.

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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

- FLOYD CROSBY, "The Brave Bulls," with Mel Ferrer, Miroslava, Eugene Iglesias, Anthony Quinn, Jose Torvay and Charlita. Robert Rossen, director.
- LESTER WHITE, "Freddie The Great," with Mickey Rooney, Terry Moore, William Demarest and Ross Ford. Peter Godfrey, director.
- CHARLES LAWTON, "Stage To Tucson," with Rod Cameron, Wayne Morris. Ralph Murphy, director.
- BURNETT GUFFEY, "The Bedside Manner," with Larry Parks and Barbara Hale. Eddie Buzzell, director.
- JOSEPH WALKER, "Harriett Craig," with Joan Crawford, Wendell Corey, K. T. Stevens, and William Bishop. Vincent Sherman, director.
- HENRY FREULICH, "When You're Smiling," with Jerome Courtland, Lola Albright, Frankie Laine, Kay Starr, Bob Crisby, The Mills Brothers, The Modernaires, and Billy Daniels. Joseph Santley, director.

M-G-M

- ROBERT SURTEES, "King Solomon's Mines," (Technicolor) with Deborah Kerr, Stewart Granger, Richard Carlson and Hugo Haas. Compton Bennett, director.
- WILLIAM SKAAL, "Kim," (Technicolor) with Errol Flynn, Dean Stockwell, Paul Lukas, Cecil Kellaway, Arnold Moss. Victor Saville, director.
- ALFRED GILKS, "The Tender Hours," with Jane Powell, Ricardo Montalban, Louis Calhern, Ann Harding, Phyllis Kirk. Roy Rowland, director.
- HAROLD ROSSEN, "To Please A Lady," with Clark Gable and Barbara Stanwyck. Clarence Brown, director.
- CHARLES ROSHER, "Pagan Love Song," (Technicolor—shooting in Hawaii) with Esther Williams and Howard Keel. Robert Alton, director.

Monogram

- WILLIAM SICKNER, "Sideshow," with Don McGuire, Eddie Quillan, Tracey Roberts and Richard Foote. Jean Yarbrough, director.
- GILBERT WARRENTON, "County Fair," with Rory Calhoun, Jan Nigh and Florence Bates. William Beaudine, director.
- WILLIAM SICKNER, "Snow Dog," with Kirby Grant, Elena Verdugo, Ric Vallin and Chinook. Frank McDonald, director.

Paramount

- CHARLES LANG, "Branded," with Alan Ladd, Mona Freeman, and Charles Bickford. Rude Mate, director.
- JAMES WONG HOWE, "Tripoli," (Technicolor) with Maureen O'Hara, John Payne, and Howard da Salva. Will Price, director.
- VICTOR MILNER, "Dark City," (Hal Wallis Prodn.) with Wendell Corey, Elizabeth Scott, Viveca Lindfors and Don DeFore. William Dieterle, director.

R.K.O.

- J. ROY HUNT, "Treasure Of Los Alamos," with Tim Holt, Richard Martin, Jane Nigh, Inez Cooper, Julian Rivero and House Peters, Jr. George Archinbaud, director.
- WINTON HOCH, "Jet Pilot," (Technicolor) with John Wayne, Janet Leigh, J. C. Flippen, Paul Fix and Richard Rober. Josef von Sternberg, director.
- HARRY WILD, "Smiler With A Gun," re-titled "His Kind of Woman," with Robert Mitchum, Jane Russell, Vincent Price and Ian Wolfe. John Farrow, director.

20th Century-Fox

- CHARLES G. CLARKE, "I'll Get By," (Technicolor) with June Haver, William Lundigan, Harry James, Gloria de Haven and Dennis Day. Richard Sale, director.
- JOE MACDONALD, "Stella," with Ann Sheridan, Vic Mature, David Wayne, Leif Erickson and Hobart Cavanaugh. Clyde Binyon, director.
- HARRY JACKSON, "American Guerrillas In The Philippines," (Technicolor—shooting in the Philippines) with Tyrone Power, Micheline Puelle, Tom Ewell, Jack Elam and Tommy Cook. Fritz Lang, director.
- MILTON KRASNER, "All About Eve," with Bette Davis, Anne Baxter, Celeste Holm and George Sanders. Joseph Mankiewicz, director.
- JOSEPH LASHELLE, "Old 880," with Dorothy Maguire, Burt Lancaster, Edmund Gwenn and Millard Mitchell. Edmund Goulding, director.
- LEON SHAMROY, "Trumpet To The Morn," with Linda Darnell, Cornel Wilde, Joseph Cotten and Jeff Chandler. Robert Wise, director.

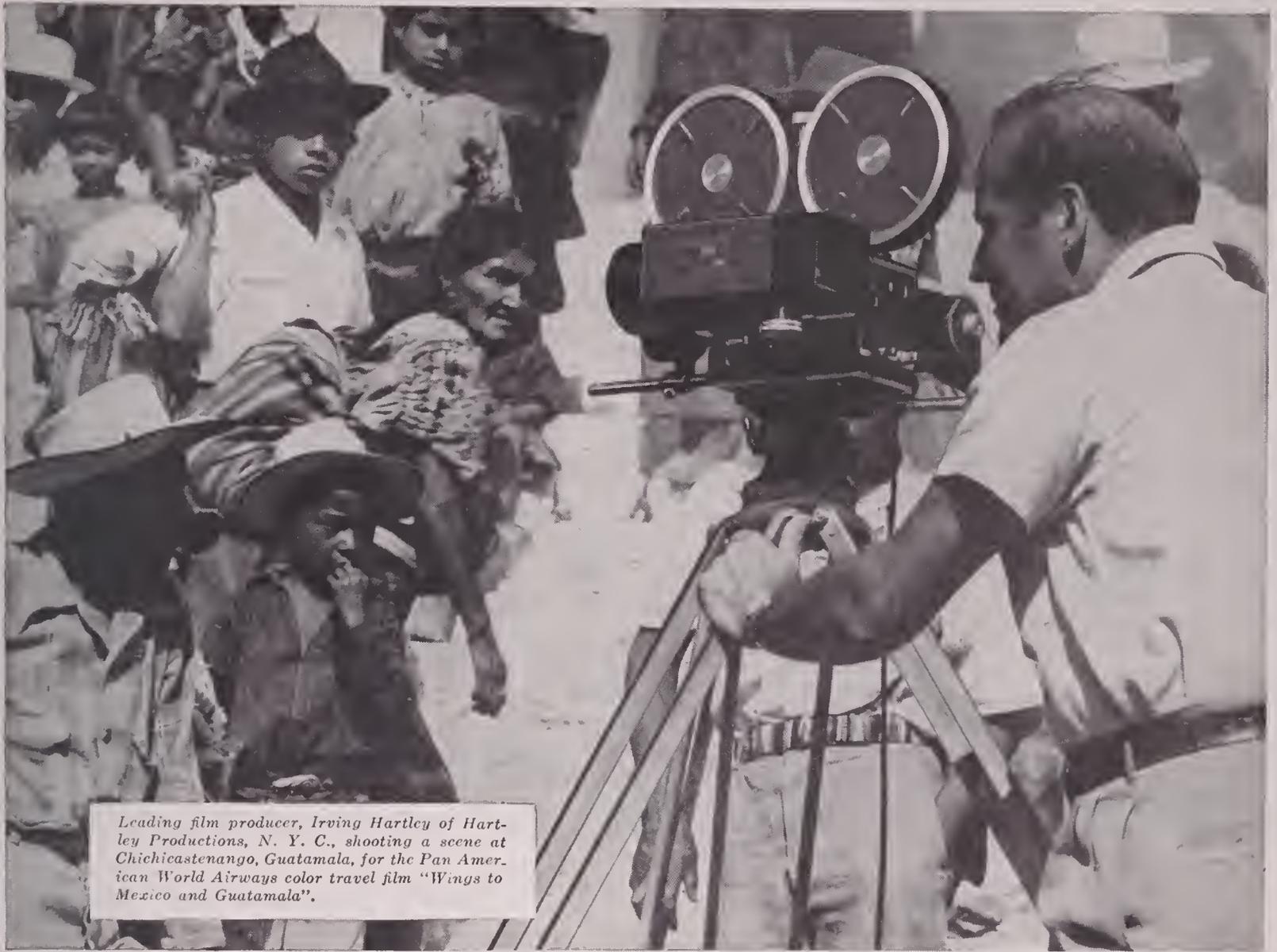
United Artists

- FRANK PLANER, "The Dungeon," with John Ireland, Mercedes McCambridge, James Barton. E. A. Dupont, director.
- ARTHUR MILLER, "Cost Of Living," (S. Spiegel Prod.) with Van Heflin. Joe Losey, director.
- WILLIAM SNYDER and JACK GREENHALGH, "New Mexico," (In Color) (Allen-Justman Prod.) with Lew Ayres, Marilyn Maxwell, Jeff Corey, Donald Buka. Irving Reis, director.

Universal-International

- CHARLES BOYLE, "Saddletramp," (Technicolor) with Joel McCrea, Wanda Hendrix, John Russell, John McIntire. Hugo Fregonese, director.
- RUSSELL METTY, "Desert Hawk," (Technicolor) with Yvonne De Carlo, Richard Greene, Lois Andrews and Lucille Barkley. Frederick de Cordova, director.
- IRVING GLASSBERG, "The Magnificent Heel," with Howard Duff, Peggy Dow, Brian Donlevy, Bruce Bennett, Ann Vernon and Lawrence Tierney. Joseph Pevney, director.
- CLIFF STINE, "The Milkman," with Donald O'Connor, Jimmy Durante, Piper Laurie and Joyce Holden. Charles Barton, director.

(Continued on Page 181)



Leading film producer, Irving Hartley of Hartley Productions, N. Y. C., shooting a scene at Chichicastenango, Guatamala, for the Pan American World Airways color travel film "Wings to Mexico and Guatamala".

Here is the Maurer 16 mm. at Chichicastenango!

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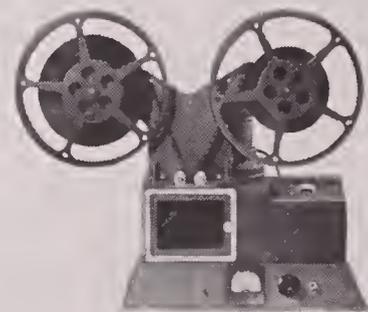
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CAMERA SHIP, used in filming scenes for "The Big Lift," was this C-82 "Flying Boxcar" with rear door removed. Director of Photography Charles G. Clarke (left) looks on as his operator, Lou Kunkle, handles

the camera in shooting a follow shot of planes leaving Berlin's Tempelhof airfield, seen in distance. Much of the air filming was done purposely in bad weather to get shots typifying Airlift flying conditions.

Getting A Lift From "The Big Lift"

Shooting story of Berlin Airlift posed many challenging problems for the camera crew, obliged to film most of the scenes in bad weather.

By CHARLES G. CLARKE, A.S.C.

Director Of Photography "The Big Lift"

THE BIG LIFT," as the title implies, is a story about the Berlin Airlift, and more important, about the daring men who flew it. Author-director George Seaton has tailored a thrilling love and adventure story, using the Berlin Airlift operations as the framework for this 20th Century-Fox production. The action is set against two termini of the Airlift—Rhein Main and Berlin—as well as much of present-day Berlin itself.

While the production is not a documentary, the story demanded realistic and authentic atmosphere. All feature roles, except six, are played by Air Force personnel, thus assuring an authentic "ring" to the dialogue. Except for two

studio sets, all other settings used were actual on-location interiors. Here again, realism and authenticity were the prime factors.

This concept, then, decided the photographic approach for the picture. At the risk of not receiving favorable notice for *beautiful* photography, I decided that here was one of those rare opportunities for honest, straight-forward camera reporting: the people should be photographed to their best advantage but not glamourized; the settings should not be pointed up with effect or ornate lighting or by use of any of the mechanical effects we usually employ in regular studio production. This took some courage, for in

Hollywood there is ever the tendency to make each new picture more glamorous than the last.

In this respect, I had the full support and confidence of director Seaton. I had long ago learned that working with this imaginative director is a delightful and inspirational experience. We had previously made "Miracle of 34th Street" together, so I knew that in the "Big Lift" assignment he would again pursue the realistic directorial approach for which he is noted. In addition to great talent and personal charm, Mr. Seaton also possesses the rare ability for making each member of his troupe a vital part of the production. Under his leadership,

we all became so enthused for creating a fine picture that we readily bent every effort toward that end. Mr. Seaton encouraged suggestions for bettering the overall production through his gracious appreciation. I do not hesitate to say that his sincere show of appreciation went a long way toward enthusing our camera crew in the undertaking of extremely difficult shots, of which there are many in this picture. As the attitude of the director towards his crew directly controls the efforts of the cinematographer, I am glad to acknowledge here the cooperation and understanding for our camera crew which director Seaton displayed on this assignment.

One of the inducements for making "The Big Lift" in Germany was that it afforded opportunity for our studio to utilize some of its "frozen" funds in that country — money that had been earned there by other 20th Century-Fox releases. To use such funds on this production, the studio sent a minimum number of its American personnel to Berlin. These numbered nineteen in all and included myself as director of photography; Louis Kunkle, operator; and Axel Rasmussen, camera technician. We arrived in Berlin May 8, 1949, following approval by Government and Military officials. Through UFA'S Berlin studios we engaged additional production personnel, including assistant cameramen Erich Kuechler and Ernest Ortmann, and a still man.

Fox sent over its own motion picture and still camera equipment. We spent the first week preparing our darkrooms and in training our German crew members in the handling and operation of 20th-Century and Mitchell cameras.

RESOURCEFUL camera crew produced this fork lift tractor, used it as mobile camera crane in shooting scenes at Templehof airfield.

At this time, the Airlift was operating planes every three minutes around the clock. We began by photographing much of the activity at both terminals of the American base of operations. We also filmed scenes at the British terminal of Gatow and at the French airport of Tegel, on the outskirts of Berlin.

While the script was being polished and awaiting approval by the various Military bureaus involved, our camera crew kept busy shooting process plates for later use. In this respect "The Big Lift" is an unusual production. Photographically it is a one-man show. All scenes were photographed by the Director of Photography — production, process plates, including the lining up and balancing of the process scenes. While this system is not advocated as general practice, it was necessary in this case and proved a valuable experience.

The amazing technical advance of the Ground Control Approach system is utilized as a story point in the picture. "G. C. A.", as it is popularly termed, makes possible safe landing of planes on airstrips in the worst of weather conditions.

As the script required that many of the scenes be played in heavily overcast weather, to point up the difficulty with which the airlift was carried on, we shot many of the air scenes in stormy weather. This at once presented new problems. In the first place, the lift was operating



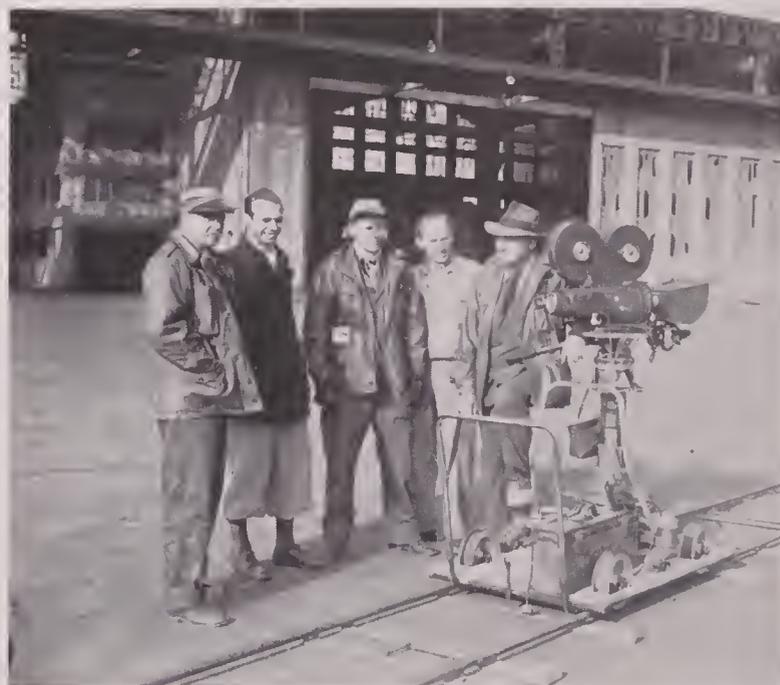
under tremendous difficulties and the Air Force did not look with pleasure on camera ships flying around the Corridor. Secondly, the weather frequently was sufficiently bad to keep all ships grounded, so a lot of red tape had to be cut to get the necessary official permission for plane takeoffs and landings in bad weather.

Only by persistence and patience were the difficult scenes successfully photographed. Those who have seen the picture remark about the very effective aerial shots. These may be attributed to the fact that we used a C82 "Flying Boxcar" for our camera ship. The construction of this famous Fairchild plane is such that the rear of the fuselage may be removed, permitting a clear, unobstructed view and allowing panorama shots up to 170 degrees. Although two booms extended out over the top at the

(Continued on Page 172)



GERMAN crew members liked this Fox camera crane which played important part in filming dramatic shots in ruined sectors of Berlin. Note Color-tran unit placed immediately above camera for fill light.

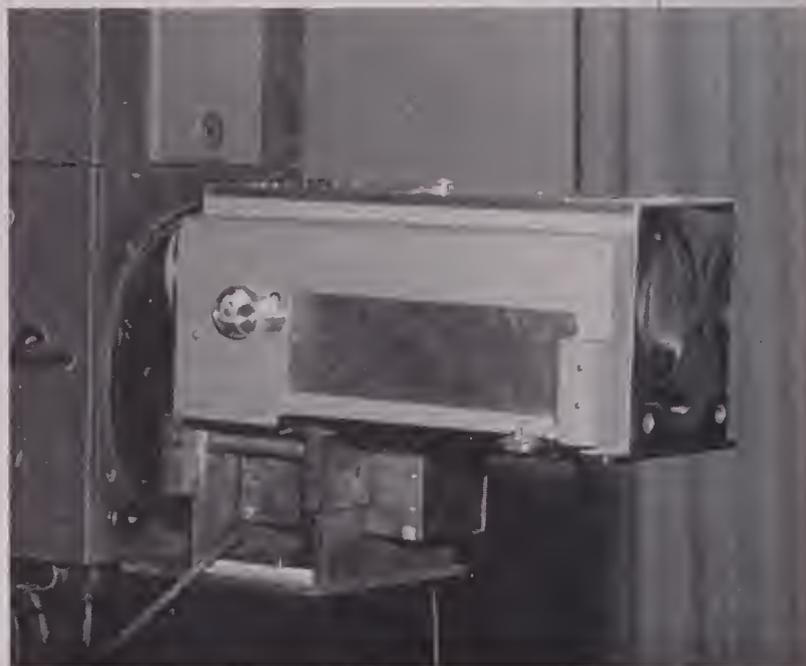


HYDRAULIC post from castoff barber chair formed camera base for this makeshift dolly Clarke's crew made for trucking shots. Examining handiwork are: Kunkle, Ortmann, Rasmussen, Kuechler and Clarke.



TINY MOTOR drives zooming mechanism of the Electra-Zoom lens, first of kind to be so controlled. Zoom may be stopped at any point within the lens' range at discretion of cameraman operating pushbutton remote control, as he watches results in camera's electronic viewfinder.

CLOSEUP of Electra-Zoom lens for television cameras, developed by Joseph Walker, A.S.C. Lens is continually variable in focal length from 3½ to 8 inches. Optical working speed is f/3.5.



Pushbutton Zoom Lens For TV

Walker "Electra-Zoom" lens minimizes camera movement, produces more effective shots with less effort than when moving camera is used.

By H. I. SMITH

*Chief Television Cameraman
Don Lee Broadcasting System, Hollywood*

A DEFINITE PROBLEM confronting television directors today is that of maintaining camera mobility during the course of a television show. It is not always easy for him to maintain a smooth flow from scene to scene and from sequence to sequence, due to the fact that the working area and facilities available to the cameraman in the television studio are usually quite limited. New camera setups must be made continuously, and sometimes very rapidly as the action proceeds. Since the show continues uninterrupted for its duration, camera movement is a definite problem. For solution of this problem, the director must rely heavily on the creative ability and skill of his camera crew.

The logical solution to the problem of camera mobility in television lies in the use of a dependable variable-focal lens which helps the cameraman to greatly minimize his camera movement.

Joseph Walker, A.S.C., has made a definite contribution to the art in the production of his "Electra-Zoom" lens.

In operation, the "Electra-Zoom" lens has proven itself to be indispensable in several aspects of television programming. Its optical design is based on formulas successfully used in exacting motion picture work several years ago by Mr. Walker. The resultant television version has exhibited optical characteristics, at full aperture, well in excess of the most exacting requirements of present television systems.

This new lens is continuously variable in focal length from 3½ to 8 inches. When used with RCA Image-orthicon pickup tubes adjusted for optimum picture output, it gives a resultant approximate range of horizontal field angles from 22 to 7 degrees at infinity. The lens has a maximum optical working speed of F3.5. Under nominal operating

circumstances, excellent results are obtained with 70 foot-candles incident illumination and a working stop of F5.6.

One of the most unique features of this lens is its automatic electrical zooming action. This variable-speed effect is accomplished by the push of a button. The beauty of the end-result is a picture which is entirely devoid of any eye-arresting irregularities in zoom rate or picture centering. The viewing audience is therefore drawn to or carried away from the center of interest quite unaware of the mechanics or optics involved.

It is highly advantageous to be able to adjust the field of view to meet the conditions of live action. At one of the major sports arenas in Los Angeles conditions made it impossible to move the camera during the course of a weekly ringside sports newscast. The inflexible arrangement of seating, and the unfavor-

(Continued on Page 168)

Making Punches Look Realistic

Ingenius boxing camera dolly gives
prizefight closeups real "sock."

By NOBERT BRODINE, A.S.C.

Director Of Photography, M-G-M's "Right Cross"

HOW WOULD YOU like to be a punching bag for a boxer — especially a movie actor-boxer with plenty of sock in his punches and a yen to make them register potently on the screen? That's what this director of photography and his assistant did in shooting scenes for M-G-M's "Right Cross," starring Ricardo Montalban, as the boxer, and Dick Powell and June Allyson.

We became, in effect, punching bags when shooting fight scenes for this picture because we took Ricardo's punches — with all his 165 pounds behind them — cushioned only by a pad of sponge rubber.

It all came about when director John Sturges wanted to point up the climactic prizefight scenes of this picture with a



WHILE Ricardo Montalban throws real punches at the camera's protective pads, in a test run of M-G-M's new boxing camera dolly, procedure is observed by director of photography Norbert Brodine, A.S.C. and his assistant Bob Moreno. Operating camera is Curt Fetters.

boxer's eye-view of his opponent's gloves socking potent rights and lefts — with the camera lens assuming the viewpoint of the boxer. To film such closeups, using an unguarded camera — not to mention an unguarded cameraman — would mean the glove-throwing boxer would have to fake or pull his punches — too obvious on the screen. What director Sturges wanted was an effect the camera would get were it strapped to the other boxer's chest and recorded his opponent's action in the infighting.

Sturges took his problem to M-G-M's camera department head, John Arnold, a reliable man for solving cinematographic problems. Indeed Arnold's inventive ability is substantiated by a desk drawer bulging with U. S. Patent applications, most of them granted and many of them in use and saving substantially in production costs for M-G-M. In no time at all, Arnold came up with the gadget pictured on this page. After working out the preliminary details on paper, he turned them over to the studio's engineering department which had the gadget on the sound stage, ready for use, within two days.

We call the gadget a boxing camera dolly. It consists of a semicircular platform, mounted on rubber-tired swivel-casters. A metal framework of tubular steel forms a guard rail for the camera operator. Mounted on a rocking base — a semielliptical affair, heavily weighted, such as one might find supporting a boxing dummy in a gym — is a vertical metal framework on which is mounted two sponge rubber pads. One, semi-circular, has an opening in the middle to accommodate field of view of the camera lens. The camera is mounted on a separate vertical post. Extending horizontally from the iron framework is a body rest for the camera operator. This is padded with sponge rubber.

In filming closeups of a fighter in action, the fighter wades into the gadget, punching at the protective pads — the one immediately in front of the camera for head blows, and the lower pad for body blows. As the punches land, the whole framework, including the camera, rocks from the impact, giving the realistic effect of the opponent reeling from the blows. Counteracting the thrust of the fighter's blows, and

(Continued on Page 177)



NORBERT BRODINE explains operation of the boxing camera dolly to Ricardo Montalban, star of M-G-M's "Right Cross." Action is photographed with an Eyemo camera operating at 32 f.p.s. Note padded body rest for camera operator.

Adapting Motion Picture Lighting To Television

Gus Peterson, A.S.C., lighting director of the Ed Wynn Show, reveals advantages of movie lighting techniques for video shows that are to be kinescoped.

By LEIGH ALLEN

THE ED WYNN SHOW, televised each Thursday evening in Hollywood by CBS and recorded on film for delayed telecasting from the network's eastern stations, has established a national reputation for the best lighting of any recorded show in television. New Yorkers say that many of the Ed Wynn shows look as good on their receivers as live shows telecast locally. And Arthur Godfrey, in a recent telecast, reportedly paid tribute to the technical quality of the lighting.

Credit for this lighting goes to Gus Peterson, A.S.C., one of Hollywood's top directors of photography, whom CBS weaned away from the movies to supervise the lighting of the network's feature video shows. Their engineers declare the fact that the Ed Wynn Show was to be kinescoped — or recorded, as CBS prefers to term the procedure — was a big factor in the company's decision to bring in a motion picture studio lighting expert. These engineers had early observed the shortcomings of the first kinescoped shows, saw that expert lighting of the

original show was the key to successful film recording of video programs. Today, Peterson also supervises lighting of the Alan Young show as well as numerous auditions, all of which are television recorded on film.

It is entirely logical that this veteran director of photography was selected for this all-important post. He had long observed the early shortcomings of television and was among the first of Hollywood motion picture technicians to probe its immediate needs and study its future. He was one of the first, among directors of photography, to realize what contribution the men of his craft could bring to television in the way of improved lighting methods — lighting that would enhance picture quality generally and tend to stimulate public taste for the new entertainment medium.

He had a lot of preconceived ideas about lighting a TV show when he undertook his first Ed Wynn show eight months ago. Most of these were quickly modified and some were discarded entirely. For one thing, you can't have

different lighting set-ups for separate takes, as in motion picture production, at least not in a show with the format of the Ed Wynn affair. Wynn's show is something like vaudeville in format: Wynn comes out as MC at the beginning with nothing on stage but the curtain or backdrop. As he exits off stage, the curtain rises, revealing a feature act in which Wynn himself takes part. At conclusion of the act, the curtain falls and Ed Wynn is out front again with a line of chatter or perhaps parrying quips with a guest star. This, generally, is the routine that is repeated for the entire show, always with new business, of course.

There are three television cameras on the show at all times, with a reserve camera standing by in case of emergency. Two cameras are mounted on platforms set up in the audience, about fifty feet from the stage and near the center aisle. These, usually remain stationary during the show. The third camera is mobile and is moved toward or away from the stage on an extension running out into the audience section at the left. Not infrequently it travels up on and around the stage. Obviously, this is the camera that gives the lighting engineer the most headaches. When it moves into the wings to shoot action from the side, the lights that are key lights for the other two cameras become cross lights for him — trouble lights if they aren't correctly placed before the show so they'll be out of lens range of the mobile camera.

One of the first things Peterson discovered, when he went to CBS, is that he had to compromise in his lighting because the show is recorded on film. If the show was produced only for local telecasting, he would use a different lighting technique; but because the show must be television recorded, the lighting must be very carefully controlled.

Lighting equipment in studio A, where the Ed Wynn Show takes place, consists of a variety of lighting units — mostly of the type which long have furnished illumination for motion picture sets. Overhead in the flies are several banks of incandescent "scoops" or floodlights, al-



LIGHTS are skillfully placed so they do not interfere with the cameras or the audience's view of the show. Side and front lighting is lavishly used, producing more pleasing pictorial results than when overhead lighting is used entirely and makes possible better quality kinescope recordings.

(Continued on Page 178)

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DO place your lights so as to get cross- and back-lighting, resulting in modeling of subject and more pleasing pictorial composition.



DON'T throw all the light on your subject from the front, leaving none for backlighting. This gives a monotonous flat result with no accentuating shadows.

Applying Professional Lighting To Amateur Movies

How you can get professional-like quality in your indoor photography, without costly lighting units.

By FREDERICK FOSTER

MOST OF THE FILMS made by serious amateurs today reveal increasing talent for cinematography, except for the lighting of interiors. In some cases this may be due to lack of the proper lighting equipment; but considering the rather limited areas of the average home movie interior, the amateur does not require the costly lighting units which the professionals use. The photofloods, reflectorfloods and reflectorspots which were especially designed for his needs will, if properly used, supply adequate illumination for professional lighting of home movies.

The shortcoming we see in so many amateur movie interiors is that they are either too flat or excessively contrasty. The fault, in the first instance, is that a general flood of light, from one or more sources, is indiscriminately thrown on the set, with no accentuating shadows or

highlights. In the other case, the light is from a single source, as a rule, so placed as to "burn up" most of the highlights and leaving heavy black shadows.

Now, how shall we correct this? We might begin with a general illumination of the scene, using two or three well-placed lamps fitted with silk or tracing cloth diffusers. This is good insurance against unpleasant shadows, but it won't give anything but a flat, well-illuminated picture. If we want the scene to have character and a professional-like appearance in the photography, we will have to build up the highlights from this foundation.

This is a good start. But now, how about the highlights and shadows that tend to give the lighting character? These can be supplied by other lighting units—not diffused—and placed here and there about the room where their beams

will produce little catch lights on irregular wall surfaces, curtains, archways and furniture. The various types of photoflood lamps are fine for this purpose—particularly the reflectorflood and the reflectorspot.

The filament in a photoflood lamp is quite small; thus its light is intense enough to give a strong beam, which will accentuate highlights nicely and also cast interesting shadows, when used for this purpose. In addition, photofloods may replace ordinary table or bridgelamp bulbs to add to the naturalness of the effect, putting more highly concentrated splashes of light in the logical places.

Clearly, if the light is built up in this manner, we are likely to get so much more than merely enough illumination to make an exposure that it will be ne-
(Continued on Page 174)

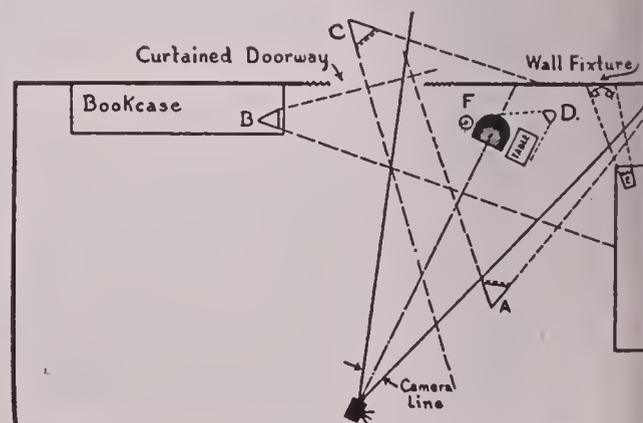


DIAGRAM described in text, illustrating simple lighting plan for typical living room that will produce professional-like pictorial results.

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REFLECTORS take the place of photo lamps in furnishing light for filming indoors as well as out. Here, 16mm. cameramen use professional type reflectors to throw light into dark areas of porch of dwelling in order to film action there.

Lighting Home Movie Interiors With Sunlight

Using reflectors to re-direct sunlight coming through windows or doors, you can photograph interiors without need for artificial light.

By JOHN FORBES

HAVE YOU EVER thought of filming movies indoors, using sunlight for illumination? The sun that furnishes light for outdoor photography can also supply light for indoor movie making, if there's a large window or door in the sunny side of the house, and often with unusual pictorial results that could only be gotten otherwise through the use of strong spot lights.

There's a trick to this, of course. Using the flood of light coming through the window alone would be distinctly one-sided lighting: the side of a face toward the window, for example, would be strongly lit, while the opposite side would be heavily shaded.

Outdoors, the answer to such a lighting problem would be to use a reflector on the shadow-side, to throw some of the sunlight back toward the dark side of the

object. Well, the same thing would work quite as well indoors as out. Placing the reflector in the proper place, we could throw back enough light to brighten up those heavy shadows without flattening the picture by wiping them out entirely.

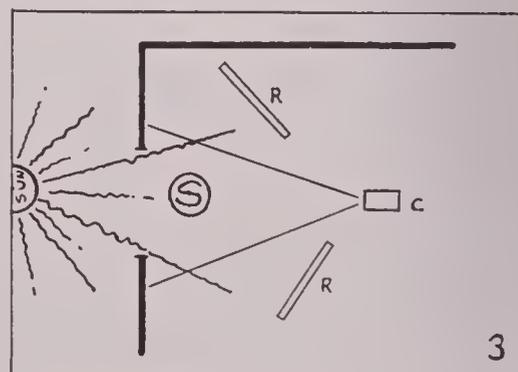
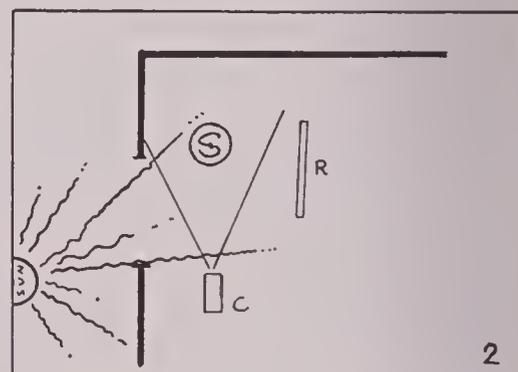
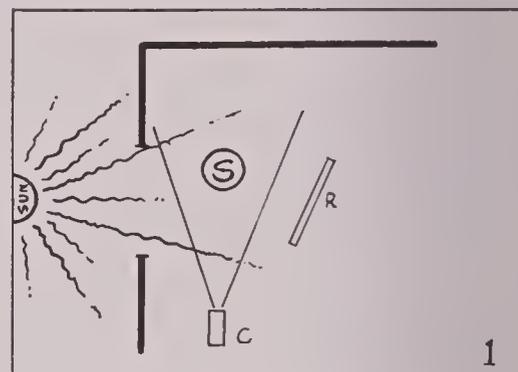
And there, in a nutshell, is the secret of making interior scenes without artificial light: we use the light from a window for the highlight side of our shot, build up the illumination in the shadows with reflectors, and there you are! It's as simple as that.

The simplest sort of lighting, of course, is the cross light just described, and sketched in Fig. 1. Next to that (and usually more pleasing) is a straight or three-quarter front lighting obtained by following the procedure shown in sketch 2. In this case, the window through which the light comes should be rather

wide to simplify placing the reflector. Naturally, with this sort of lighting, the direct sunlight will fall on more of the background area, giving more depth to the shot. Where the sun does not strike, those areas will be either a jet-black shadow or badly underexposed, unless additional reflectors are provided to throw light on the background as well as on the subject.

Sometimes, too, it is possible to obtain very effective backlight effects this way, placing subject and camera as shown in sketch 3. Two reflectors will be necessary, one on each side of the camera, with one nearer the subject than the other, so that we still have a sunlight side and a shadow side. For best results, in making a shot like this where the camera is shooting directly toward the window, the sunlight should come from a rather high angle, and if there is shrubbery outside the window, it will serve to block out the lower half through which we would otherwise shoot, thereby eliminating the uneven exposure that would occur between the foreground and that part of the back-

(Continued on Page 176)



DIAGRAMS show how sunlight, coming through a large window, may be utilized to shoot movies indoors. In Fig. 1, sunlight falls upon subject (S) and reflector R, which reflects some light back toward shadow side of subject. Camera position is shown at C. Figs. 2 and 3 show variations in use of reflectors.



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ZOOM LENS

(Continued from Page 160)

able orientation of aisles in the stadium made it necessary to rely on "Electra-Zoom" lens technique entirely. With the switch from conventional high-speed lenses normally used heretofore, no change in lighting was necessary for the "Electra-Zoom." Since the program was of a nature where visiting sports celebrities appeared for interview, it was easy to frame as many as four persons in a group with this setup, and yet zoom into an individual head-and-shoulders close-up of the person constituting the center of interest. With a single camera, the show was thus transformed from an otherwise static affair into one that had considerable eye-appeal and audience interest.

In another case, the requirements for a ballet setting made it impossible to use a large camera dolly or small camera crane for shooting the show. Yet, it was necessary for the viewing audience to feel that they were entering a Viennese restaurant to witness a floor show. Set limitations were such that camera movement was restricted to a direction paralleling the front of the stage. A dolly shot in this direction combined with a wide-to-close zoom, perpendicular to the direction of dolly travel, carried the audience through the entrance hall, past and over tables, and through an arch where the dancers began their performance. As the show progressed, it was possible to keep in frame a continuously variable image of the dancers throughout the entire sequence of the dance. The pictorial impact of the dance patterns was thereby exploited to the fullest extent possible.

Very often, the presence of an audience is necessary to a television show. Any camera or lighting equipment which obscures the audience view is detrimental to normal audience reaction. "Electra-Zoom" technique makes it possible to eliminate camera dolly runways in the audience, and instead use camera parallels conveniently placed and designed for the requirements of the show. Through adjustment of the height of the camera parallels, it is possible to simulate pictorial effects normally secured through the use of cranes.

In the "Electra-Zoom" lens, the television cameraman has at his disposal a very versatile instrument, limited only by his ability to use it in the highly imaginative business of creating a pictorial illusion.

Answers to questions on all aspects of photography is provided by George Eastman House, the photographic center in Rochester, N. Y.

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Duffy's Clovis, New Mexico

"Being a satisfied user of the Auricon-Pro Camera in our Television Motion Picture Department we are interested in your new camera, the Cine-Voice."

J. K. DeBeaubien, TV Studio Supervisor
KSTP-TV
St. Paul and Minneapolis, Minnesota

"The Auricon-Pro which we have been using on Television work has been giving excellent results."

George C. Coon, Mgr. Photo Dept.
Creative Advertising
Cincinnati, Ohio

"The Cine-Voice was sold to a very happy customer 30 minutes after we received it."

C. M. Hadden
Hadden Films Louisville, Kentucky

"I took home a Cine-Voice Camera and made a test film and was very pleased with the results. The sound track was excellent and the picture was very steady."

M. Winn
Central Camera Co. Chicago, Ill.

"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

"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

"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

"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

"I have completed the initial tests with the Auricon Cine-Voice and I am pleased beyond words."

Lester E. Bernd
Wellsley Hills, Mass.

"We have handled considerable film that has been passed through the Auricon for different ones and...these results have been very satisfactory."

Rudolph Pfeiffer, Sales Director
Kin-O-Lux New York City

"I would like to compliment your organization on the Camera itself. We have taken over 50,000 feet of film with the Auricon, and have had perfect results..."

Don J. Pottratz
WTCN-TV
Minneapolis - St. Paul, Minnesota

"Our camera equipment, includes your Auricon-Pro Camera from which we have had excellent results."

James Alopondis
Hellenic American Pictures Co.
Chicago, Illinois

"I had the pleasure of using the Auricon dual-phono Turntable you sold to the Chicago Natural History Museum...very flexible and efficient turntable."

Mrs. Lillian Gray
Chicago, Illinois

"The Department of Agriculture has tested the Auricon and it is recommended for use."

Wm. H. Campbell, Chief Audio-Visual Aids
Veterans Administration Hospital
Topeka, Kansas

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Carolina's Photo Center
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Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with magazine 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.

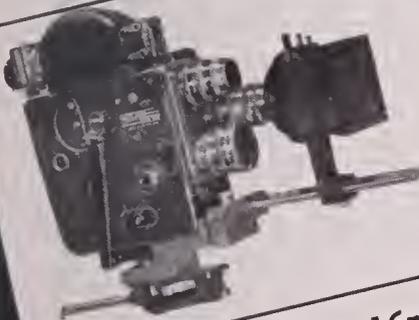
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5 1/2 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.

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

SUNSHADE & FILTER HOLDER COMBINATION

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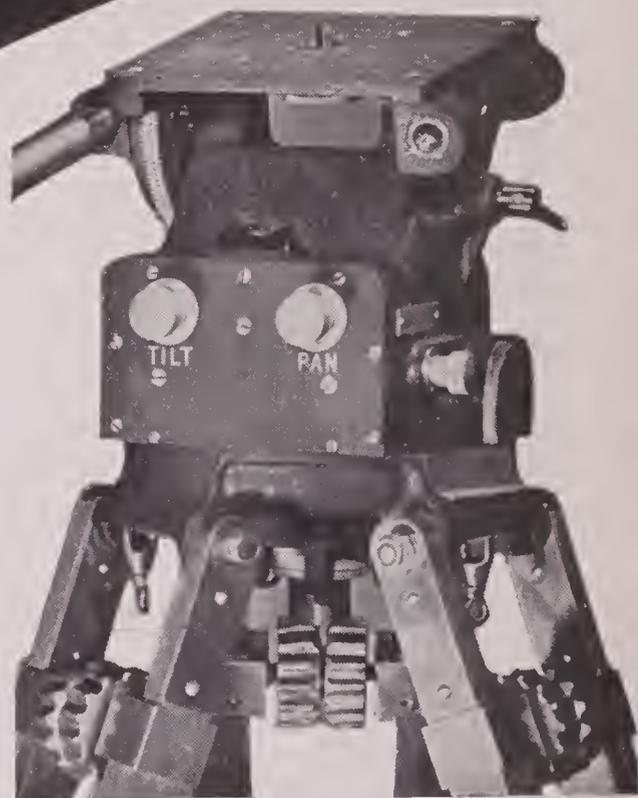
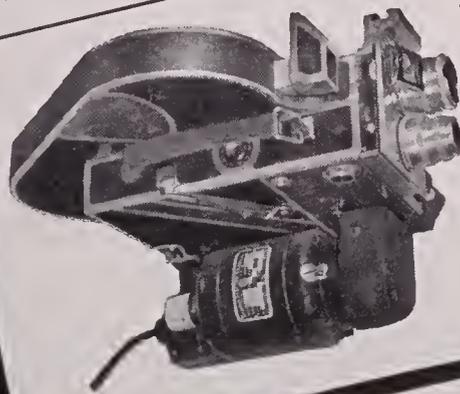


BLIMP for EK 16mm. CINE SPECIAL

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 spring-steel drive arm of camera and is mated to spring-steel 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 1/4" and 3/8" 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.

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ANASTIGMAT, 32mm f/6.3. \$18.50

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CARL ZEISS SONNAR, 50mm f/1.3. \$185.00

BAUSCH & LOMB, 50mm f/2.7. \$57.50

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16mm x 1600' \$ 1.98

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PROFESSIONAL HI-HATS. Mfg. by Camera Equipment Co. New. \$12.50

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(Continued from Page 154)

tographic assignments, has come up with a "natural" in a mass sales item that fits in with the current juvenile craze for Hopalong Cassidy and other western outfits. It's a plastic horsehead which snaps over kids' tricycle handlebars converting the trike to a steed for young "Hoppy" prototypes. Sells for only a couple of bucks and bound to fatten Ray's bank account in short order.

PHIL TANNURA, A.S.C., meanwhile has come up with an aid to soft drink purchasers at ball parks and sports grandstands, where drinks are served in paper cups. Phil has a plastic tray punched with holes which hold several cups for spectators who must carry a number of cups of beverage at a time.

CHARLES ROSHER, A.S.C., is in the Hawaiian Islands, photographing in Technicolor the M-G-M production, "Pagan Love Song." A keen enthusiast for color photography, Rosher brought along his personal still and movie cameras, and will indulge a few "busmen's holidays" shooting movies and stills on his own.

A.S.C. has nominated for Picture of the Month Award for March, Ted McCord for "Young Man With A Horn," and Leo Tover for "When Willie Comes Marching Home."

SMPTE'S 67th semiannual convention, concluded in Chicago April 28, saw presented several interesting papers directly relating to motion picture photography.

Capt. Don Norwood, inventor of the famous Norwood incident light exposure meter bearing his name, presented a paper on Light Measurement For Exposure Control in which he establishes a mathematical foundation for exposure meter design.

Other papers presented pertaining to matters cinematographic discussed a new 100,000,000 frame per second camera; time lapse cinematography; Eastman Kodak's new negative-positive color motion picture film; sound tests on new color print film; a new B & H T-Stop calibrating unit; a new portable 35mm. motion picture camera and the Acme 35mm. process camera.

JACKSON ROSE'S new 1950 edition of the American Cinematographer Handbook and Reference Guide is off the press. Jam-packed with valuable info, too.

SLASH FILM PRODUCTION COSTS with the Fairchild PIC-SYNC* Tape Recorder

**Pic-Sync means "in sync" with picture camera regardless of tape stretch.*

Each time you retake a sound track, film production costs go up. The waste of film stock and the time delay for processing increase operating costs immeasurably. You *eliminate* these extra costs with the Fairchild PIC-SYNC Tape Recorder. Play back the sound at once . . . check it . . . erase the track . . . retake the sound *before the talent, the set and crew are disbanded.*



Now Use 1/4" Tape For All Original Sound Tracks

Fairchild's development of the PIC-SYNC feature makes possible the use of 1/4" tape. Sprocket driven magnetic tape is costly.

- 1/4" tape costs 80% less than 16 mm magnetic tape.
- 1/4" tape requires 50% less storage space.
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- 1/4" tape has more uniform coating—less amplitude flutter.
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Bulletin fully describes the new PIC-SYNC Tape Recorder. Send for your copy today.

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GETTING A LIFT FROM "THE BIG LIFT"

(Continued from Page 159)

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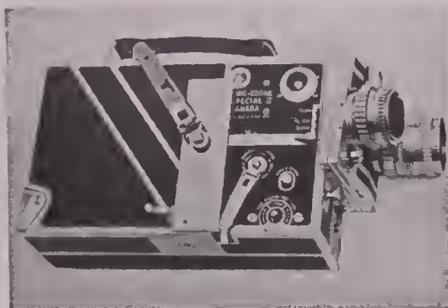
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rear of the plane, by flying slightly above the ships we were photographing we successfully eliminated these booms from camera range. Many of the spectacular scenes showing Airlift ships landing at the unique Templehof airport were filmed in this way. This field is in the very heart of Berlin, surrounded by five-story apartment buildings. To approach it successfully, it is necessary for incoming planes to barely skim the rooftops for a considerable distance, then drop rapidly in to the runway, once the field is reached. To do this with a camera ship in formation required considerable skill on the part of the pilot. Fortunately, the Air Force has many men skilled in this maneuver.

As for the performance of our camera crew, only the high regard we held for our director and our great personal interest in the success of the picture made us undertake the risks we did. Because of the difficult flying conditions continually encountered and of the great number of air scenes required for the picture, the camera crew worked tirelessly seven days a week for five months in order to keep the production on schedule. Most Sundays were devoted to shooting air scenes, which left the balance of the week for production shooting on the ground. In the very beginning we were under pressure to complete all scenes in which Montgomery Clift appears, because he had another commitment back in the United States. Then, after these scenes were disposed of in record time, we faced a new problem: time was running out on our German leading lady, Cornell Borchers, who was committed for another picture.

Needless to say, crew, staff and cast were pretty well worn down by this time, and the German members of our crew must have had misgivings about the drive of the Americans. With the Clift scenes disposed of, we enjoyed a delightful three-day holiday. The Company chartered Adolf Hitler's former yacht for a short cruise down the Rhine. It was a rare treat for all of us, but especially for our German crew members who, until assigned to this picture, had not been permitted to leave Berlin. We had secured permission for them to go to Western Germany in order to work for us there; but being present on Hitler's yacht was an ironic experience for them. Besides, many never before had seen the fabled and beautiful Rhine valley. In Western Germany food was more plentiful, and a bounteous spread was arranged for us through Press Club facilities.

"The Big Lift" will show scenes of Germany generally representative of the country. Special effort was made to select backgrounds suitable to the story, yet of varying interest so that the picture would present typical sights of the country. The Berlin street scenes are of average streets—not the most modern nor the most ancient. Scenes played in the ruins are laid against settings one may find in any section of Berlin. All action inside of planes was staged in actual planes—no sets were built for this. Obviously, serious lighting problems were encountered in working inside the planes, but the realistic result justified the effort. There are only two studio sets employed in the entire picture—both apartment suites.

As the action called for the Airlift planes to be seen from the windows of the apartment and timed with the dialogue, we employed process here because of the sound problem. We had brought along a Mitchell process projector and an operator. The dialogue scenes in the pilot's compartment of the planes were also done in process, and for these we used an actual plane.

There are two scenes that taxed our ingenuity. The first was where the camera moves from an exterior in full sunlight to the inside of a quonset hut. The change in lens stops ranged from f/16 with a G filter to f/3.2 without a filter inside the hut. In the course of the pan around, the filter was withdrawn and the diaphragm changed.

Lighting the interior of the hut was in itself a problem, as the ceiling was in the picture at all times. Lighting units had to be placed behind lockers along the walls. At no time did we ever use more than ordinary booster lighting equipment for any of the sets. For example, in the night sequence at Potsdam Platz, the windows were lit with Mazda floods, and four 5-KW lights covered the foreground action. This sequence was shot on an overcast afternoon and in the evening. Red filters before the lens reduced some of the daylight and allowed the Mazda lights to come through.

The Subway sequence is perhaps one of the most interesting I filmed. We had arranged to use one of the dead-end rail stations after the trains quit running at eleven p.m. We took our booster lights down into the terminal for the approach shots, but when our actors took their positions in one of the cars there was no place to put the lights. It was necessary to show both sides of the car. Action called for people going in and out of the car, hanging on the straps, etc.; so

side lighting was out of the question. Besides the cars had to move.

In the ceiling of the car were three small, flat dome lights. We hid very small photofloods behind these and used this light for our key. The output was only four foot candles, so we utilized the modern technique of latensification. Having thus decided to resort to latensifying the film to gain additional emulsion speed, we went all the way; we put a few more 100-watt globes along the top of the cars to light the stations and tunnels as we passed enroute. Here my head gaffer, Kenny Lang, encountered a problem, too: the current was 550 volts — a matter he soon solved by stringing the hundred-watt lamps in series.

Doing a whole sequence comprising two nights' work for latensification processing required some courage, particularly as we were some 8000 miles away from our laboratory in Hollywood. However, the footage came through with complete success, proving the value of latensification as a means of saving situations where adverse lighting conditions are unexpectedly encountered. We filmed many of the scenes as the car traveled from station to station, so the backgrounds seen through the windows are actual.

The use of latensification in this instance proved that it not only helps exposure but has the ability to produce more detail in the shadows, resulting in fine photographic quality.

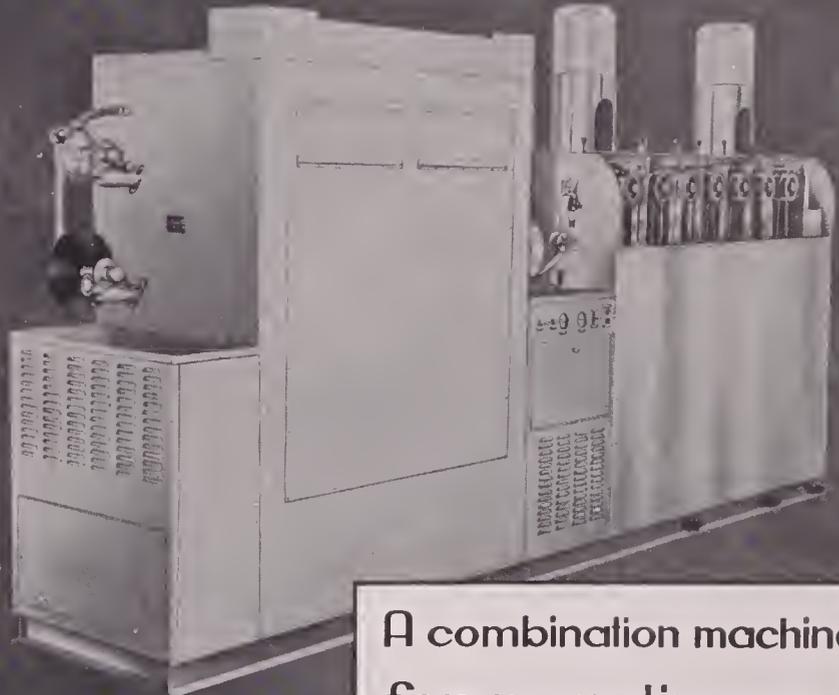
For the burning motor scenes, we used smoke pots placed in the cowlings of the motors. This caused some confusion, when we made landings at Templehof. Invariably the crash crews, observing the smoking plane coming in for a landing, would rush out on the field with fire-fighting equipment to meet us — despite the fact they had previously been fully briefed on our filming operations. They took no chances that the "fire" might be real.

Related here are but a few highlights of a tremendous and extremely interesting overseas filming assignment. We who took part in the production cannot but feel that "The Big Lift" is truly a part of us. We are witnessing its initial reception by the public with as much sense of possession as will the studio, the director and the producer. If we have done our part well enough to make it a successful picture, then we are more than justified for the long hours of work we have put into it.

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(Continued from Page 164)

cessary to stop down the lens quite a bit. And this is good. Closing the diaphragm will produce greater depth of focus, for one thing, and permit controlling the overall effect we get. Closing down the lens diaphragm will give a darker, more contrasty picture, while opening up will give a lighter, softer result. The best guide, of course, is to use an exposure meter, normally following its reading, but for effects, modifying exposure as required.

Let's take an actual example and see what can be done under normal conditions. Take the room represented in the diagram—a living room of average size. Our shot is to be made with a 15mm lens, centered on a person seated in a chair, and with the camera taking in a corner of the room. Beside the chair is a small table and on the opposite side a reading lamp. Now let's begin to light the scene. First we want to rough in our foundation light—the soft, general illumination from which we can build up our highlights. Starting with lamp "A"—a 500 watt photo lamp with a diffuser or No. 2 photoflood—we place it as shown to give soft, general illumination over the picture area. Used alone, it would give light sufficient for good exposure at a wide stop, but the picture would be flat and uninteresting. We could balance this, of course, with an-

other similar unit placed on the other side of the camera, and perhaps a bit closer to the subject. This would result in fairly good lighting on subject and background. But if there is a dearth of lighting units, as with so many movie amateurs, we could get better lighting results with but a single front-light unit.

Now, what do we want next? First some highlights falling on the folds of that curtain in the background would relieve the flatness of that part of the set; so we'll place lamp "B" either on the bookcase at the left or on a high stand near it. This lamp can be either a 500-watt photo lamp or a photoflood. Either lamp will give the background highlights we desire and, if properly placed, can also simulate the light falling on the subject from the reading lamp "F." Not being diffused, the lamp will give harder, snappier illumination. The respective distances between the subject and lamps "A" and "B" can be regulated so as to get any desired balance. We should bear in mind, of course, that light from unit "B" should be slightly more intense than from "A" because it comes from what we have established as the highlight side of our picture.

Through the doorway, in the background, we will see a little of the room beyond; so there will have to be some light at this point. If the camera picks up enough of the room to warrant it, it might be advisable to cast some shadow patterns on the visible wall, using photofloods. However, all that may be necessary is to provide a lamp at "C" to throw

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some light through the door into the scene. This unit should be placed high to give the illusion the light we see is falling naturally from an overhead light fixture. This will also provide an effective natural touch, by highlighting the edge of the draperies hanging in the doorway.

On the wall behind the subject, there is a small fixture, which we shall assume is fitted with an ordinary, flame-tinted 25-watt lamp. This can be lit, not for what it will add to the general illumination, but for the natural effect the glow will give. To accentuate this light, we can place a diffused spotlight — a reflector-spot will do — on the mantelpiece, focused on the wall fixture, so that it provides a soft patch of light immediately behind the fixture, representative of the natural glow from the fixture.

Now, in reality, such a lamp would also throw some light down on the furniture in front of it, and, of course, upon the people in the scene, too. The result would be a fine, edgelight or backlight. So we simulate this by placing a photo-flood or reflectorflood at "D," in line between the chair and the wall fixture and in such a position that it is screened from the camera by the table beside the chair. This will give us the effect we want — a backlight on the edges of the chair, table and subject, separating them from the background.

Lamp "D" should be elevated as high as practicable, and placed well behind the subject, for it must be remembered that we are shooting this scene with a wide-angle lens. Therefore, a better effect will result if this lamp is raised a couple of feet from the floor and masked by the table. If we include the legs of the table in our shot, this lamp then may be placed at such an angle that, while still doing its primary work, will also provide backlighting on the table legs.

The main source of our apparent illumination is, of course, the reading lamp at "F." We can deal with this as seems most advisable: either by putting a photo-flood in the lamp and using this illumination as part of our overall basic lighting, or merely place an ordinary 150-watt bulb in the lamp to give enough light to suggest the lamp is a major light source, and utilize the light coming from the unit at "B" as our basic illumination.

Close study of this typical home movie set lighting illustration will enable the cine amateur to greatly improve his indoor photography. The cost of necessary lighting units may be very nominal. The No. 1 and 2 photo-floods are so reasonable that every movie maker should have at least a dozen on hand at all times. Of course, these should never be used without reflectors, except where employed for effect lighting or replacing bulbs in read-

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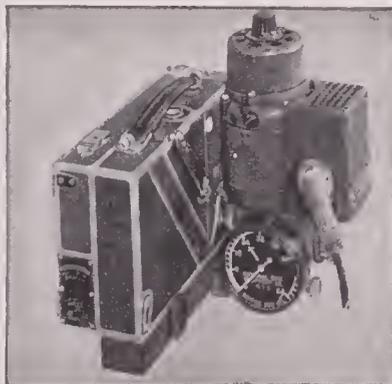
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ing lamps, etc. On the other hand, by using reflectorfloods and reflectorspots—the new photolamps with the reflectors built in—you save money and there is less equipment to handle and store. These units, expertly used, will enable the amateur to approach, if not duplicate, the

general interior lighting technique seen in most professional motion pictures today. We might add, that some Hollywood studios are now using these lamps a great deal for lighting sets of moderate size, and with excellent results.

LIGHTING INTERIORS WITH SUNLIGHT

(Continued from Page 166)

ground seen through the window.

These effects, though, are among the more elementary ones we can get indoors. If there are really fast lenses on the camera, say $f/2.5$ or faster, we can get away from the direct sunlight and its harsh illumination. There is really a surprising amount of light to be found admitted by windows through which the direct rays do not come—and it is a softer, diffused light which gives infinitely more satisfying photographic renditions. This softer light can often be reflected very satisfactorily, too, while if necessary, a beam of direct sunlight from another window can be directed around to the scene through use of stronger reflectors or mirrors. Once one gets the hang of using reflectors, it becomes easy to juggle a beam of light from one reflector to another until it is placed exactly where it is needed.

These reflector lightings can be made very successful on porches, too. A light-colored porch floor is in itself something of a reflector, incidentally. Shooting into a porch presents little difficulty; but in shooting through or out from a porch, one should remember that the direct and reflected front light on the subject should be rather strong, so as to minimize the difference in exposure between the subject on the shaded porch and the more brilliantly illuminated background.

The reflectors mentioned here are essentially the same as those used by the movie studios—a large flat panel covered with a reflective surface of paint or aluminum foil. However, a simple reflector that can be rigged in an emergency consists of a piece of white cloth, say a bed sheet, held up in the proper place to throw back some of the light into the shadowed side of the subject. A very simple support for such a reflector can be made by taking two strips of light wood and fastening them together to form a T. In use, you simply attach the sheet to the crossbar of the T with pins or thumbtacks, and then attach the upright of the T to the back of a chair with strong twine or rubber bands. In order to set your bedsheet-reflector at the desired angle, put weights on the bottom of the sheet and adjust the angle by moving the chair forward or backward and by sliding the supporting bar higher or

lower on the back of the chair. This type of reflector is useful mainly when the direct light is quite strong, for it reflects quite diffusely. Your projection screen can also be pressed into service as a reflector, in a similar way, too.

But more often, a surface that has greater reflecting power will be needed. Here it is best to use a reflector more like those used professionally. You can make a reflector of this type easily. Cut a panel of plywood or wallboard about 3 feet square and coat one side with aluminum paint. For a stronger reflective surface, use chrome aluminum paint, or sheet foil cemented to the flat surface. Provide a length of stick as a prop, and you're all set.

The serious movie maker will provide himself with one or more reflectors, and these should be made to fold conveniently for easy carrying and storage. For this, simply cut the panel of plywood or wallboard down the middle and hinge the two pieces at the center. Small cupboard hinges will do for the plywood. Gummed bookbinder's tape, from the stationer's, will serve as a hinge for the wallboard. A hinged, wooden leg at the back will support the reflector at any desired angle. If the reflectors are going to be used indoors a second leg can be hinged at the bottom and notched to receive the upper leg, thus providing a slip-free support for indoor use.

Where an extremely "hard" reflected light is required, you may use a sheet of bright tin or a large mirror; but the light from such surfaces is so intense that it is not very pleasing photographically, except when used to throw light into a deeply shadowed background; also it is hard to control.

On the other hand, where it is desired to soften the direct light through a window, this can be done by covering all or part of the window with cheese cloth.

The color of the room in which you are working will have a very important bearing on the quality of picture you will get, when utilizing sunlight for illumination. If the walls and draperies are dark, they will naturally reflect very little light—possibly not enough to register an impression on the film; and about all that you will get is whatever is in the path of the direct light coming through the

window, or in the beams of the reflectors. On the other hand, if the walls are light, they will reflect more of the light, resulting in a better picture.

Following the same idea to its logical conclusion, we can make a very few lights go a long way if we supplement them with daylight — and still farther if we use reflectors. For instance, using sunlight and a reflector to light a subject, we would probably lose most of the background; but if we add a single lamp, a photoflood in a reflector, we can add enough general illumination to reveal background detail fairly well. As the strength of the illumination varies as the inverse square of the distance between the lamp and the subject, we can balance our natural and artificial lighting simply by moving the lamp toward or away from the subject.

Where filming is done in Kodachrome, this mixed lighting procedure must be given special attention in that blue "daylight" photofloods must be used, for the artificial light source, in order to match the color temperature of the daylight.

MAKING PUNCHES LOOK REALISTIC

(Continued from Page 161)

taking some of the punching impact, is the weight of the cameraman pressing against the body rest.

The camera records with a wide angle lens, operating at a speed of 32 frames per second to slow the screen action slightly.

We used this gadget in shooting action closeups of both Montalban and his opponent. For these shots it was hoisted into the boxing ring, so that the shots would include the true backgrounds of the boxing arena. Grips moved the gadget on its casters during the action so the camera would swing around the arena with movement of the boxer.

In spite of the great pains taken by the studio to provide this device, making possible some of the most realistic boxing shots ever recorded for a feature motion picture, it is quite possible the average theatre-goer, seeing the picture, will fail to appreciate these scenes and the steps taken to obtain them because, for one thing, these shots, constituting the climactic highpoint of the picture, will receive tight, staccato cutting in the editing. "Right Cross" is an action-packed story woven around a triangle love affair between a newspaper man, a girl and a prizefighter. Realism in the crucial prizefight scenes gives it its big moment, thanks to an imaginative director and the inventive genius of John Arnold.

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MOTION PICTURE LIGHTING FOR TELEVISION

(Continued from Page 162)

ternating with banks of 500-watt Fresnel spots. These are augmented by numerous floor units—Mole-Richardson "Juniors" and "750's." Then there are several 5000-watt MR's for backlighting. In addition, "Juniors" are mounted on several vertical parallels that extend perhaps 35 feet in height and fitted with casters for mobility. Out front, flanking the cameras at either side, are several spots of different sizes on stands which serve as front fill lights.

Only incandescent lights are used. Various other studios, of course, have their own pet lighting equipment—fluorescents, photofloods, etc.—and there will always be arguments tending to prove or disprove the advantages claimed for one type light over another. In the case of the Ed Wynn Show, standard motion picture lighting units have given the best results.

As may be seen, format of the show, which predetermines position of the cameras, precludes changing the lighting for different camera angles. Thus, lighting must be carefully planned in advance—during rehearsals—so that it is adequate for all the acts, for any of the players, no matter what their position on the stage. When the curtain falls on one of the specialty acts, and Ed Wynn takes over out front, it is possible to make some slight adjustment of the floor lamps for the act to follow, if necessary.

Peterson emphasizes it is important for best picture results to get the bulk of the lighting from the front and sides, and not from overhead. One of the shortcomings of so many TV shows, he points out, is that dominant lighting comes from overhead with the result that there is always strong highlights on the players' foreheads, noses and chins, with consequent shadows beneath the eyes, nose and chin.

Occasionally it is possible to make dimmer changes, say on a girl vocalist, for example, when her position on stage can be predetermined at rehearsals and insured by cue marks on the floor. But ordinarily, whether the shots are to be closeups or long shots, in full or open stage, a jail setting or a living room scene—all have to be handled with the lights in the same position as established before the show goes on the air.

Another disturbing factor invariably encountered is mike boom shadow, a problem not unfamiliar on movie sound stages. "In television," Peterson says, "we have to anticipate the mike boom movement for the entire show and take it into consideration when placing our lights. It frequently happens that the situation gets entirely beyond control, during a show, particularly if a player's enthusiasm carries him beyond the limits intended."

In motion picture set lighting, the usual practice is to set the key light and



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then add fill lights. In television, and particularly with the Ed Wynn Show, a certain amount of overall illumination is first established, then the key and high-lights are added.

It is logical that Peterson would bring to television some of the lighting kinks employed in motion pictures. At CBS, he has successfully applied "gimmick" lights in illuminating certain sets. These are small practicals — 25 or 50 watt lamps — or photofloods or reflector flood lamps placed strategically about the set and concealed so as to produce subtle effect-lighting.

Heretofore, much of television photography has lacked the highlights coming through open doorways and windows, and the effective relief lights on people and objects within the set, which are standard procedure in motion picture set lighting. Gus Peterson is bringing these to television through the Ed Wynn Show.

He is also credited with introducing to television for perhaps the first time the use of cookaloras or "cookies" as they are better known in the parlance of movie set lighting. These are panels of opaque material — plyboard, wallboard, etc. — perhaps 15 by 20 inches in size, with irregular designs punched or cut out. When placed before a light source, they break up the light into a pleasing, varied pattern for pictorial or mood effects.

In charting the lighting for the Ed Wynn Show, front lighting usually is established at 65 foot candles. Then high-lights are added as necessary to obtain the desired balance.

When the show goes on the air, Peterson presides over the lighting controls and directs any changes from a position in the wings, where he keeps watch on the end result with the aid of a monitoring receiver. One or more of his assistants control the lights by operating switches or dimmer banks on cues relayed by sign language or through instructions received through small "walkie-talkie" type one-way communicators. During rehearsals, Peterson works closely with engineer Ed Miller, observing the effect of his lighting through the camera's electronic viewfinder. He is appreciative of the splendid cooperation given him by Miller, Herb Pangborn and the other television engineers at CBS for the aid they have given him in his work.

Aiming at still further improvement in lighting for television, Peterson is preparing to launch a series of tests in which diffusers and neutral density filters will be used, both of which have not proved practical to date for television. But they remain two of his "preconceived" notions mentioned earlier, which he believes can be effectively employed to further raise the quality of video lighting and photography, especially for dramatic and variety shows.

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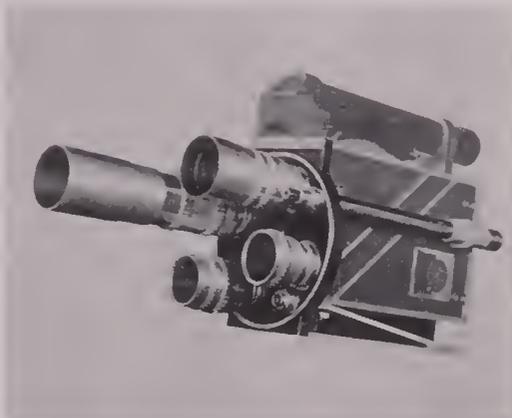
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WHAT'S NEW

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Turret For Special

A 4-lens turret designed for the Cine-Kodak Special is offered by Par Products Corp., 926 N. Citrus Ave., Hollywood 38.



Turret accommodates Cine-Ektar lenses in C-mount adapters. Other features include special base which permits changing magazines and winding of motor spring; positive turret indexing; and styling to harmonize with the camera.

Hot Splicer

Schoen Products Co., 519 East 31st St., Los Angeles, offer a professional adaptation of the Hollywood Automat Splicer that contains all the features of its Automat plus



built-in heating unit. Unit plugs into any 110-120 volt AC house line and attains splicing heat within 5 minutes. Specially built thermostat controls current and holds splicer to pre-set temperature. Price is \$12.95.

New Developing Machine

Joel Fox Photo Equipment, 6539 Santa Monica Blvd., Hollywood, announce a new developing machine for 16mm. and 35mm. motion picture film, color black and white or reversal. Designed by Art Reeves, new machine has many exclusive features, according to manufacturer making it ideal for studio or professional laboratory use. Complete details and price may be had from manufacturer.

Fairchild Tape Recorder

Fairchild Recording Equipment Corp., 154th St. and 7th Ave., Whitestone, Long Island, N. Y., offer the new Fairchild Pic-Sync Magnetic Tape Recorder, using ¼-inch tape. Unit is console style, with tape reels in horizontal position on top. Controls, dials, etc., are on a slanting panel at front. Recorder provides for monitoring, immediate playback and erase. Complete details are available in free brochure.

Kodak Pony 135 Camera

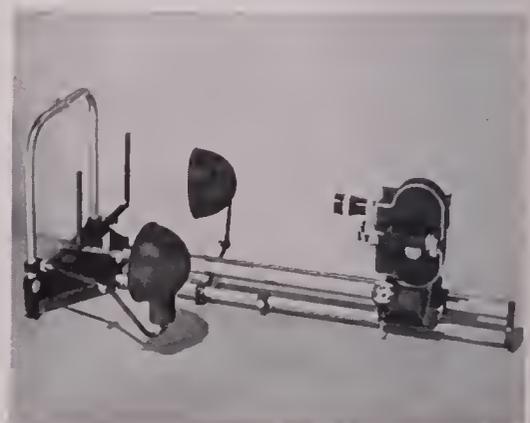
Smartly styled and attractively priced is this newest of Eastman Kodak cameras in the 35mm. film field. It provides automatic film stop, automatic exposure counter, rewind, and is equipped with Kodak Anaston lens,



51mm., f/4.5. Lens diaphragm control can be stopped down to f/22. Cocking type shutter provides speeds of 1/25, 1/50, 1/100, 1/200, and "B" for time exposures. It sells for \$34.50.

Bolex Titler and Optical Bench

Paillard Products, Inc., 265 Madison Ave., N.Y., announces a new cine titler and optical bench to sell for \$124.50. It accommodates most all other makes of cine cameras, as



well; has adjustable base to insure accuracy of centering. May be used either in horizontal or vertical position. Maximum travel along center bar is 24 in. Twin lamps are adjustable, with maximum separation of over 5 feet. Accessories, such as drums, roller screens, etc., will be announced soon.

Makes Special Effects

Camera Mart, 70 W. 45th St., New York, announces a new attachment for making special effects with 16mm. cameras. Unit consists of a four-surface optical flat prism that will reproduce four identical images on a single frame of film, revolving around one another, when crank on housing is turned.



Price, including prism, lens, housing, montage unit and double arm is \$99.75.

New Goerz Lens Price List

C. P. Goerz American Optical Co., 317 E. 34th St., New York 16, have a new price list off the press covering all Goerz lenses and accessories.

List includes wide range of motion picture camera lenses, process prisms, filters, flanges and metal holders for gelatin filters. Camera owners are invited to write for free copy.

Projector Lens

A new, five-element projection lens, known as the Super Proval, is announced by Bell & Howell Co., Chicago. Designed for ultra edge-to-edge sharpness of detail, lens will be standard equipment on all new B & H home movie and 16mm. sound projectors. It also is available as an accessory for present B & H projectors.

CURRENT ASSIGNMENTS

(Continued from Page 156)

• WILLIAM DANIELS, "Harvey," with James Stewart, Josephine Hull, Peggy Dow, Cecil Kellaway, Alex Nicol, Jesse White. Henry Koster, director.

• MAURY GERTSMAN, "Frenchie," with Joel McCrea, Shelly Winters, Paul Kelly, Elsa Lanchester, John Russell, Marie Windsor and John Emery. Louis King, director.

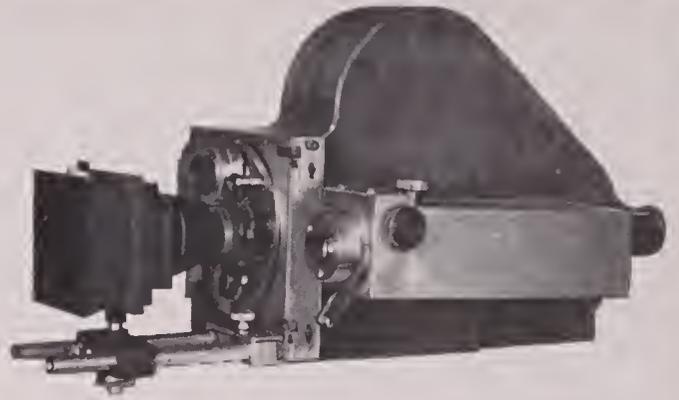
Warner Brothers

• WILFRID CLINE, "Tea For Two," (Technicolor) with Doris Day, Gordon MacRae, Eve Arden, S. Z. Sakall, and Gene Nelson. David Butler, director.

• TED McCORD, "The Breaking Point," with John Garfield and Patricia Neál. Michael Curtiz, director.

• PEVERELL MARLEY, "Kiss Tomorrow Good-bye," (Cagney Prod.) with James Cagney, Luther Adler, Steve Brody, Barbara Payton, and Helena Carter. Gordon Douglas, director.

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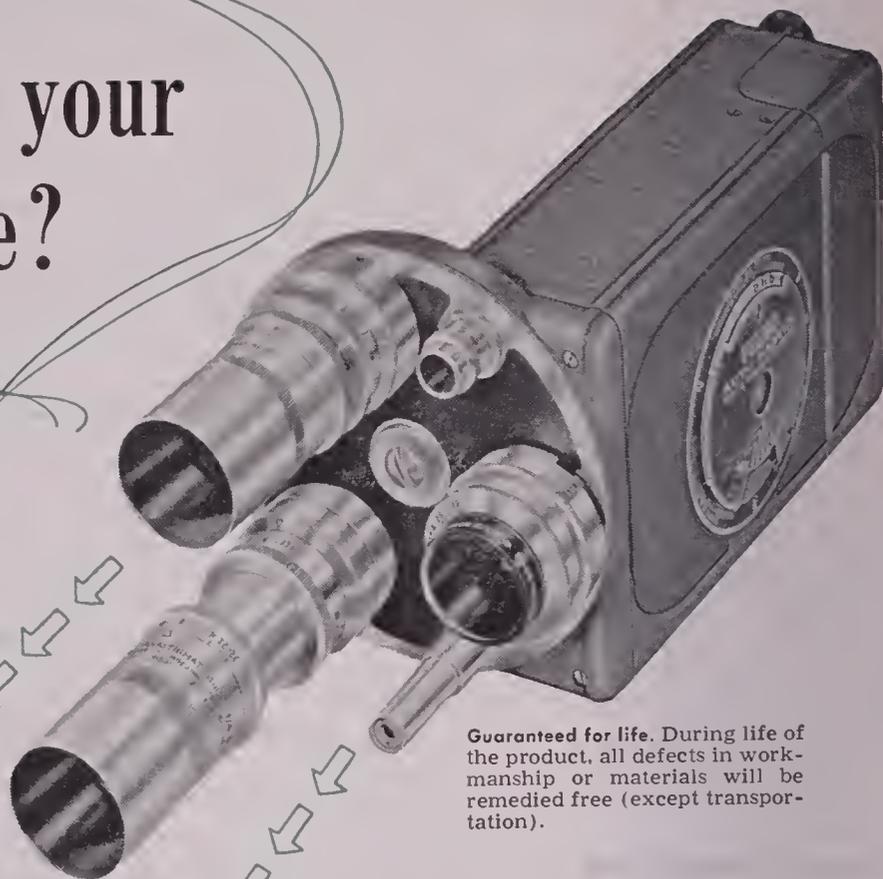
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THIS ISSUE . . .

Future In Television Newsreels (See Page 194)

For Amateurs: "When And How To Use Camera Angles"

JUNE 1950



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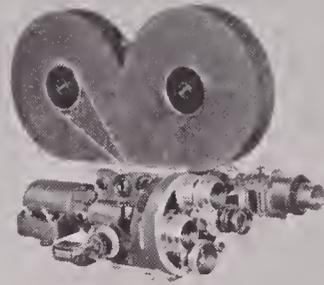
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JUNE • 1950

NO. 6

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ON THE COVER

DIRECTOR George Sidney called a halt in the shooting of Metro's "Annie Get Your Gun" to give Betty Hutton (Annie) chance to practice on her shootin' for a scene—which also provided still man Eddie Hubbell opportunity to shoot Betty, Sidney and rest of crew with his camera. In center (with pipe) is George Sidney, and at his right, Charles Rosher, A.S.C., director of photography whose camera and lighting genius added sparkle to this hit M-G-M production. Others are (top, L to R) John Nickolaus and Milford Cline. At bottom (back to camera) is Jack Aldworth, and Henry Imus.

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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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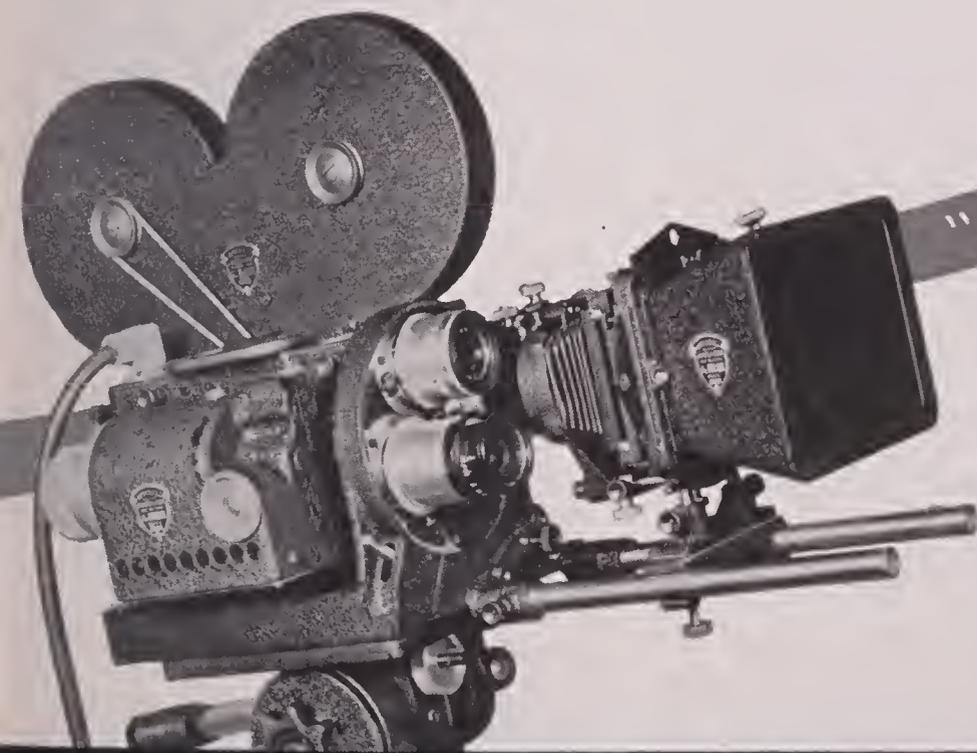
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Hollywood Bulletin Board



ASC BANQUET, May 1st, honored retiring president Charles G. Clarke (left, standing) shown here chatting with guests. Left to right are: Al Santell, producer; Arthur Edson, Society V-P; John G. Capstaff, Eastman Kodak Co.; Fred Jackman, Executive V-P of Society; and George Seaton who directed "The Big Lift."

PRODUCTION of feature films in Hollywood Studios reached 46 for month of May — a new high for the year. Of 46 features, almost 30 percent were being shot out of town, resulting in the greatest exodus of directors of photography from Hollywood in years — all on active assignment.

Almost the entire Fox stable of cameramen were away from the studio on location filming. Leon Shamroy, A.S.C., was in New Mexico on "Two Flags West." Edward Cronjager, A.S.C., was in Georgia on "I'd Climb The Highest Mountain"; Harry Jackson, A.S.C., is still in the Philippines, shooting "American Guerillas In The Philippines"; Charles Clarke, A.S.C., embarked for France May 1st to shoot background material for "On The Riviera"; John Boyle, A.S.C., was in Japan on backgrounds assignment for "Call Me Mister," soon to go into production on the Fox lot; Joseph McDonald, A.S.C., was in New York on "Fourteen Hours," and Winton Hoch, A.S.C., was filming "Halls Of Montezuma" in Technicolor at Camp Pendleton, Calif.

Many of M-G-M's directors of photography were on location, too. Bob Surtees, A.S.C., sailed for Italy April 26th, to prepare shooting on Metro's big production of the year, "Quo Vadis?" — to be filmed in Technicolor. William Skall, A.S.C., followed Surtees two weeks later

and will handle 2nd unit camera on the same production. George Folsey, A.S.C., was in Colorado shooting location scenes in Canon City for "Vengeance Valley"; Harold Rosson was filming scenes in Indianapolis, Indiana, for "To Please A Lady"; and Charles Rosher, A.S.C., was in Hawaii directing the Technicolor photography on "Blue Lagoon." Ray Rennahan, A.S.C., was also there for a week on second unit for the same picture.

Elsewhere, Jack Greenhalgh, A.S.C., was on location in New Mexico on the Irving Allen production "New Mexico," suffered serious injury when he was trampled by a horse, and was hospitalized. Lester White, A.S.C., replaced him.

Tom Tutwiler, A.S.C., was in San Antonio, Texas, with two camera ships for R.K.O.'s "Jet Pilot."

Floyd Crosby, A.S.C., was shooting "The Brave Bulls," in Mexico City for Columbia.

Bob DeGrasse, A.S.C., was on location at Riverside, Calif., for Leo Productions' "The First Legion."

Hal Mohr, A.S.C., was in San Francisco for Fidelity Productions, shooting "Woman On The Run."

SIXTEEN MILLIMETER sound films will be made of activities of American Society of Cinematographers' June 5th meeting, according to program being arranged by Executive Vice-president, Fred Jackman.

On exhibition will be the new Berndt-Bach Cine-Voice 16mm. single system sound camera, which will be used in filming in sound members and guests attending this meeting.

FRANK PLANER, A.S.C., who will have an article in the July issue of *AMERICAN CINEMATOGRAPHER* describing his use of Garutzo lenses exclusively in photographing three independent productions, is scheduled to give a technical address and film demonstration on the same subject at the July meeting of the American Society of Cinematographers.

SO SURE is CBS of color for television, it has prevailed upon producer of new series of Gene Autry films for TV to shoot them all in 16mm. color. Each film will run 27½ minutes, require 3½ days to make.

JOHN BOYLE, A.S.C., was re-elected last month to Board of Governors of Academy of Motion Picture Arts and Sciences as representative of the directors of photography in the industry.

JACK CARDIFF, A.S.C., completely recovered from an illness that confined him for several months in a Swiss sanatorium, is back in harness again, directing the photography on "Pandora And The Flying Dutchman," a Lewin-Kaufman production being shot in Europe.

ERNEST PALMER, A.S.C., embarked for Europe, middle of May, for an extended vacation.

VICTOR MILNER, A.S.C., leaves for Europe June 15th for a visit with his son, Victor, Jr., who's in the Air Force and stationed in Germany, and to explore a new motion picture project. While on a similar jaunt last year, Milner, along with his son, was taken into custody by the Russians, when they unintentionally crossed into Soviet territory; were later released.

GORDON JENNINGS, A.S.C., has returned to Paramount Studios as head of the Special Photographic Effects department.

STANLEY KRAMER has signed long-term deal for use of Garutzo lenses. Kramer will use lenses in his next three productions, with options for further use on daily lease basis.

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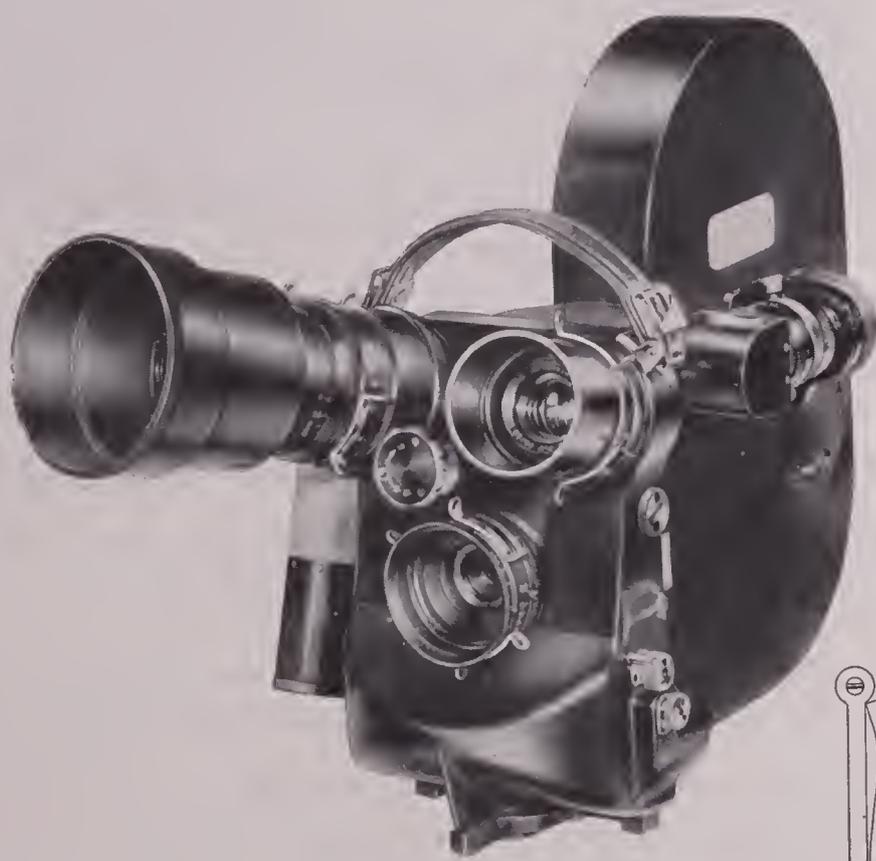
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HERE IS a picturized account of KTTV's television newsreel staff in action:

- 1—Staff head receives news tip, dispatches cameraman and assistant to scene.
- 2—On the scene: photog and sound man get the story in pictures and sound, using Auricon single system camera.
- 3—Film is rushed back to KTTV's lab for rapid processing in Huston developing machine.
- 4—Developed film is screened for preliminary study by editors.
- 5—Film editor runs strip through viewer, gets it into shape for TV airing.
- 6—Cutter trims film to fit timing indicated on continuity sheet.
- 7—Titles and animation are shot in lab, dubbed in by film editor.
- 8—Narrator rehearses telecast, using script and stopwatch, watching projected film as he talks.



Television Newsreel

There's a future in television newsreels for 16mm. cinematographers. KTTV's staff of 4 cameramen, 7 technicians turn out one a day, five days a week.

By RALPH LAWTON

ONE EVENING early in March, Los Angeles residents were puzzled by a brilliant red glow spread across the city's eastern skyline. Television set owners in the area were not puzzled long. By flicking set dials to channel 11—KTTV—they saw firemen in East Los Angeles battling a huge oil storage tank fire responsible for the glow.

A few weeks earlier, these same set owners saw the Los Angeles Times annual sports awards dinner in progress at

the same time radio was broadcasting the results.

What makes these telecasts unusual is that they weren't accomplished by live television camera pickup. They were done by film. KTTV's television newsreel cameramen, rushed to the scene, had shot the action, rushed it back to the station where the film was given quick processing and put on the air while the events were still in progress!

And the important story behind all



this is one that opens up a new field of employment for 16mm. cameramen.

Nightly, at 7:30 and at 10 o'clock, the KTTV Television Newsreel brings TV viewers the day's news on film. Its stalest story is seldom more than twelve hours old. Most of its stories have occurred within four or five hours. Often it comes on with news only an hour or so old. Just as interesting as the story of how this is done is the story of why it is done. And we'll tell the latter story first.

It was nearly a year ago at a luncheon conference table when Norman Chandler, publisher of the Los Angeles Times and owner of 51 per cent of KTTV, announced that he wanted to turn the station into a "spot" news station. At that time west coast television stations were presenting the news in one of several ways. Some used an announcer who read the news while the camera was turned on him. Others used wirephoto still pictures which were kept on the screen for 45 seconds while the story was told. One station used teletype bulletins which were flashed on the screen. Two stations were using "canned" newsreels from the east with stories three to seven days old.

None of these methods had caught on.

The problem of presenting "spot" news in an interesting fashion was turned over to Omar Johnson, assistant to the president of The Times, and Harrison Dunham, KTTV station manager. They decided 16mm. cameramen working alongside of Times news photographers was the answer.

Bob Allison, Times police reporter and general assignment man, was taken off the editorial staff to head the project. Several months were spent in the groundwork. In October, 1949, Allison hired his first staff member. He was Ben

(Continued on Page 213)



FLOTILLA of fishermen's boats, fitted with gas lights for night fishing, furnished illumination for making movies for the first time of the famed Blue Grotto on the Isle of Capri, for Hal Wallis' "September Affair."

Italian Location Scenes Filmed By Gaslight

By VICTOR MILNER, A.S.C.

Director of Photography, European Sequences, "September Affair"

GASLIGHT was used in shooting a sequence of scenes for a motion picture, probably for the first time, when the Hal Wallis production, "September Affair," was being filmed in Italy. And with excellent results. It all came about, not because of a shortage of electrical units, but because use of them in a marine cavern was impractical.

"September Affair" is an interesting picture in many ways, not the least of which is its travelogue-like treatment which will bring to theatre audiences actual views of many picturesque and historical places such as the beautiful city of Florence, Pompeii, Naples, Capri and the Blue Grotto. It was the last named that we filmed with the aid of gaslight.

The Blue Grotto is one of the most famous tourist attractions on the Isle of Capri, off the coast of Italy. Of almost indescribable beauty, it is a large cavern in the rocks skirting the sea. Entrance is made by row-boat from the sea, through a small opening in the rocks. Once inside, one may see, looking back toward the entrance, the colorful, fluorescent effect on the unusually blue waters—result of the sunlight filtering through between the rocks below the surface.

Because an important sequence in "September Affair" has to do with Joseph Cotten and Joan Fontaine looking over the sights of Southern Italy, I suggested to Wallis that we include shots of them visiting the Blue Grotto. I had carefully calculated the lighting and photographic requirements, and counted on using flares for illumination. When Wallis okayed the idea, I set out to locate a source of flares, and was told that the mayor of the town definitely would not permit use of lighted flares within the Blue Grotto, fearing they would mar the interior.

So that evening we sat on the veranda of the Caesar Augustus Hotel, watching dusk slowly descend over the harbor, and cursing the luck that

(Continued on Page 217)

The Infra-Red Photographic Evaluator

Selecting costumes and makeup that will register same tonal values on either Plus-X or infra-red film made easy with new electronic analyzer.

By STANLEY HORSLEY, A.S.C.

Supervisor, Special Photography, Universal-International Pictures



ALEXANDER VELCOFF and his Academy Award-winning electronic device for instant determination of photographic response of colors and materials when filmed with infra-red.

A MAJOR OBSTACLE in the use of infra-red film in motion picture production has been hurdled by Universal-International Pictures, thanks to development by one of the studio's technicians of a device affording evaluation (in advance of shooting) of makeup, costume materials and props in terms of photographic response with infra-red film. For developing the device, known as an Infra-red Photographic Evaluator, The Academy Of Motion Pictures Arts and Sciences this year awarded Universal-International's Alexander Velcoff a Class III Technical Award.

Universal, which has progressed farther in the use of infra-red film than perhaps any other major studio, ran into difficulties when filming "Sword In The

Desert," one of its first feature productions in which infra-red was used extensively in shooting night scenes in daylight. The first rushes revealed a marked difference in color tone of uniforms made of black material, which appeared black when filmed with Plus-X but came up light grey when photographed in daylight with infra-red film. Also, makeup on some players appeared differently on infra-red film. All this resulted in difficulty for the editing department when attempting to intercut infra-red scenes with those shot on Plus-X.

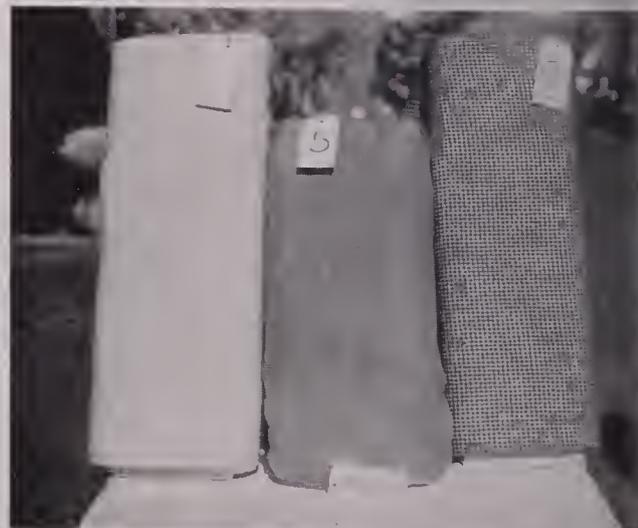
The most prominent differences in tonal values appeared in costumes. A number of uniforms for soldiers had been made by the wardrobe department,

which had used two different bolts of black cloth. When photographed, the penetrating infra-red film revealed the costumes in two different color values. It became the immediate problem of the wardrobe department to correct this situation. At first it undertook the laborious

(Continued on Page 211)



ABOVE PHOTOS show tonal rendition of dark suit photographed with Plus-X (left) and infra-red (right). With infra-red, suit appears gray—result of response of chemical components of fabric dyes which respond at particular frequencies.



STILL PHOTO tests show difference in tonal rendition of three different bolts of fabric when photographed with Plus-X (top) and infra-red (bottom).

Matching Location Footage With Studio Shots

Skillful keying of connecting shots with light and mood of location footage filmed overseas highlights photography of "Under My Skin."

By HERB A. LIGHTMAN

FROM THE technician's point of view, "Under My Skin" is an outstanding production job, due to the skilled matching of European location shots with studio scenes. To director of photography Joseph La Shelle goes the chief credit for expertly blending the main action, shot at 20th Century Fox studios, with location scenes filmed in Europe by two other cameramen. So perfect is the match that even an expert in this field would find it difficult to tell where the location footage leaves off and studio shots begin.

"Under My Skin," adapted from Ernest Hemingway's short story, "My Old Man," is a new 20th Century-Fox film that tells the story of an unscrupulous jockey who has been barred from American tracks, and is forced to seek refuge in Europe. He resumes his career in Italy, has to flee to France, and remains a double-crosser to everyone except his ten-year-old son and an entertainer in a cheap Paris cafe. The film faithfully follows Hemingway's fine short story, and is a well directed, sensitively acted production that scores heavily as entertainment in spite of its morbid ending.

A camera crew headed by Dewey Wrigley, A.S.C., and Norbert Brodine, A.S.C., spent two and a half months in Paris last summer filming scenes for this picture at three French tracks—Maisons Laffitte, Auteuil, and Chantilly. Another camera crew headed by Wrigley spent two months in Italy filming the pastoral scenes which open the film, as well as background footage around the Merano race track. This marked the first time in its century of existence that cameras were permitted on the famed Auteuil steeplechase track. For this production six cameras were kept in action at the track daily over a two-week period; 100,000 feet of choice race track shots were sent back to the studio as a result.

"Under My Skin" demanded a total of 40 sets, including the interiors of jockey clubs at all of the above mentioned race tracks, railroad stations at Maisons Laffitte as well as Merano, and a half-mile track laid out on the back lot of the studio for matching shots of the race sequences. Studio-built set-

tings used throughout the picture are authentically European and perfectly match the backgrounds of the location footage.

Casey Robinson, who produced the picture as well as writing the screen play, went to Europe to supervise the filming in both Italy and France. He was accompanied by Robert Snody, 20th Century-Fox Production Manager. They took wardrobes from the studio as well as stills of the principal players. They located doubles for these actors in Paris and in Rome.

The biggest problem in photographing studio scenes to blend with scenes shot in foreign locales is that of matching the quality and source of light in both footages. Very often the location scenes are made without the benefit of technical refinements available in the studio, which means that the closer shots filmed in the studio must match the location quality as closely as possible while at the same time achieving the amount of technical finish one expects from Hollywood major studio cinematography. Fur-

thermore, due to the short schedule usually allowed for location filming, subject matter must be recorded when it happens whether conditions are ideal or not, and if the filming of one sequence continues over several days there is likely to be a great variation of conditions within the one sequence. This is exactly what happened during the horse race sequences, in which it was necessary to shoot a number of races over a period of several days in order to get enough footage required for a complete sequence.

In stating the general technical problem involved, director of photography La Shelle says: "When a picture is made in this manner, using long shots with doubles, plus a variety of background and process shots, it later becomes the task of the director of photography to keep the connecting shots in key with the light and mood of the location shots so that they will match and all tie together visually without jarring. How well he accomplishes this job determines whether or not the picture has a look of reality

(Continued on Page 215)

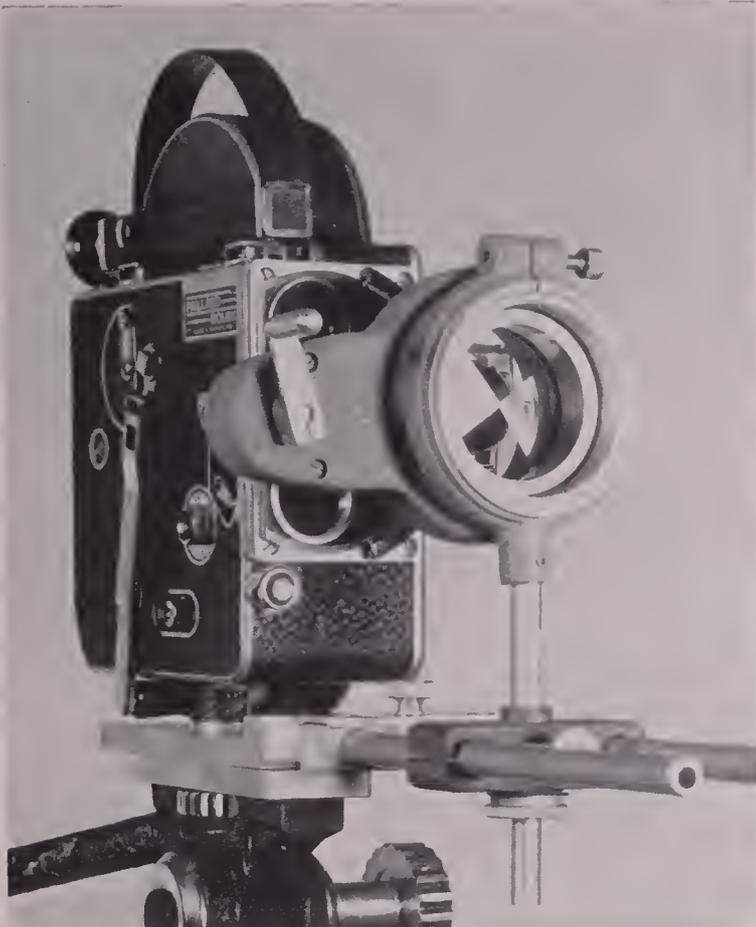


GENUINE REALISM in scenes where background plates are employed depends on the director's skill in matching his lighting with that of the process plate footage.

Optical Effects With Any Camera

New attachment for 16mm, 35mm, and television cameras employs prisms to make a wide range of special effects.

By IRVING BROWNING



TURNING small crank on Effects attachment, with camera running, produces unusual optical effects, depending upon prisms used in attachment. Gadget will fit most all 16mm, 35mm movie cameras, also television cameras.

EXAMPLE of one of many special effects possible with the Camart Optical Effects Unit. Object is multiplied 4 times, the images rotating in a circle. Split frame and other cinematic effects also are possible with the Unit.



SINCE THE INCEPTION of motion pictures, special optical effects have played an important part in lending new dramatic emphasis to movies. Some of the very first effects were the fade and the lap dissolve. Later, other effects were devised, many of them made in the camera by the cameraman as the picture was being shot. Ultimately, the use of special effects became so important to motion picture production that each major Hollywood studio set up its own special effects department where, today, effects are made separately from the main production with equipment designed especially for the purpose.

The independent film producer and the 16mm. and 35mm. commercial film maker, meantime, have often avoided the use of effects in their films simply because it meant farming this work out to specialists outside their organizations, usually at considerable additional expense. Now the making of many optical effects in the camera becomes feasible and practical again for these independent producers, thanks to a new device being marketed by The Camera Mart, Inc., New York City.

Tradenamed the Camart Optical Effects Unit and pictured in the illustration above, the gadget is attached to the camera and may be operated by the cameraman himself as he shoots. The Unit, which may be employed with almost any 16mm. or 35mm. motion picture camera—and with television cameras, too—consists of a base which fits between tripod head and camera and holds a prism housing before the camera lens. A crank, extending from right side of housing, as shown, is operated by the cameraman to set prisms in motion to produce the desired optical effect. The crank may be turned in either direction and at any speed. A sample effect is illustrated in the film clip reproduced above. It consists of a figure reproduced in four identical images, each revolving and following the other in a circular motion.

The prisms supplied with the Unit are ground to 2, 3, 4, 5, or 6 surfaces and are well defined to exacting tolerances. The prisms will produce from two

to six identical images on a single frame of film, and the images can be made to revolve around each other. The five-surface prism, for example, will create four images revolving around a center image which is stationary. Other effects possible with this device are making objects appear elongated and thin, or short and squat. Two prisms may be used in combination to produce an eight-image result, or four still and four revolving images. Still another use is to dissolve from one scene to a split image effect, then dissolve back to the regular scene.

A montage unit, which is part of the device, makes possible filming three different scenes on a single frame of film, each occupying one-third of the frame. This is done by setting the Unit to mask off a portion of the frame, then operating the camera to expose the remainder. The film is then wound back in the camera

(Continued on Page 208)

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CHRONIK BROS. 35mm camera with carrying case.....\$40.00
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(More Coogan Specials on Page 221)

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When And How To Use Camera Angles

Used skillfully, they lend individuality to cine photography.

By PHIL TANNURA, A.S.C.
Director of Photography, "Customs Agent"

CAMERA ANGLES are a fundamental and important part of the practical task of filming good motion pictures. Essentially, the term "camera angle" refers to the position of the camera with relation to what is being photographed. There is—or should be—a definite relationship between the subject, the type of action, and the position of the camera. And this applies just as much to amateur motion pictures as it does to professional cinematography. Indeed, it should be one of the major studies of the serious amateur cine photographer if he expects to rise to higher levels of cinematographic work.

The most elementary distinction in camera-angles is between the long-shot, the medium-shot and the close-up. Of course, if you want to split technical hairs, you might name a flock of sub-varieties of each of these; but essentially, you'll still be dealing with close-up, medium-shot and long-shot. The long-shot is made with the camera far enough away from the subject so that the whole thing—subject and background—is fully shown in the picture. The medium-shot brings the camera closer—say close enough so that if you're filming people, you show about half the figure. The close-up takes both the camera and the audience close to the subject, so that if you're photographing a person, you fill the screen with his head and shoulders, or perhaps merely the head alone.

But that's kindergarten stuff; nearly every cine photogra-



DRAMATIC, toward-the-sky angle of this shot gives it pictorial emphasis that would have been lost had the cameraman chosen to shoot down upon the divers from top of the diving tower.

pher knows what these shots are. Not so many, though, seem to know *how* to use them.

Well, in a long-shot, we show everything. If we're photographing people we show the people, and where they are in relation to their surroundings. In a medium-shot, we've moved up closer, to where we can get a better view of what's going on. In a close-up, we've brought our subject within arm's length.

It is almost invariably best to open a sequence with a long-

(Continued on Page 206)



HERE we have examples of typical long, medium and closeup shots—the latter shown being filmed by Richard Thiriot while on location for his award-winning 16mm. color film, "Navajoland." Established practice is to open a sequence with a long shot, which sets the locale, then

move in closer for more detail—finally moving the camera nearer for a closeup to capture subject or detail at close range. Using this one-two-three camera angle scheme, subject matter or important action is thus presented properly oriented for easier audience perception.



COMMENTARY should be carefully worded to fit the picture, scene by scene—sequence by sequence. To do this properly, the exact length of each scene should be determined in terms of seconds.

Syncing Sound For Pictorial Harmony

Tips for amateur film makers in scripting and recording sound accompaniment for cine films.

By JOE P. GRAY

Washington Society of Amateur Cinematographers

out of sync with the photography. A discord between sight and sound would exist, noticeable to everyone. Interest in the picture might, therefore, be reduced.

People to whom the amateur exhibits his work are usually most kind, and nearly always state how much it was enjoyed, to one's face—but remember, these same people are accustomed to theatre presentations. For them, it is almost mandatory that a commentary accompany the film, otherwise how can a picture convey the thought intended by the producer? An extemporaneous commentary is, in general, not to be desired, unless the commentator is an especially gifted and witty speaker.

A commentary should be carefully worded to fit the picture, scene by scene—sequence by sequence. To do this properly, the exact length of each scene should be known in terms of screened seconds. Fitting phrases can be used to prolong a particularly interesting scene. Shorter periods of action or static may be concisely worded. A commentary, thus worked out, must be rehearsed until it can be given simultaneously with the action of the picture, distinctly and without a "flub."

One way to sync narration successfully with your film is to select certain "key words" in the script. Mark their corresponding frames on the film with a grease pencil. Upon projecting the film, these marks will readily be seen, indicating the exact time a key word should be spoken. It will be apparent how much uncertainty in word approach is eliminated by a flashing mark on the screen. It signifies just where to start a phrase in order to hit a desired "clinch." For example:

- Scene 1. A front lawn, showing walkway to a house, flowers in bloom, general sunny appearance.
- Scene 2. Man and woman step out of house door and continue down walk.
- Scene 3. Man opens car door and woman seats herself in car.
- Scene 4. Man closes car door and walks around car to enter from opposite side, but is frozen in his actions by what he sees.
- Scene 5. Flat tire.

Typical sync narration for above scenes: (Scene 1) "It was Easter Sunday, about ten o'clock in the morning, when (Scene 2) John and Mary realize they were about to be late for church. However, John is not one to forget a (Scene 3) gentleman's respect for his lady, even though a few precious seconds may be lost by his attentiveness. (Scene 4) It's such demonstrative actions that keep love in bloom, but—of all times, to have a (Scene 5) flat tire!"

(Continued on Page 209)

WEBSTER DEFINES synchronization as: "concurrence of events in respect to time." Consider the synchronization of the earth with the moon. From the beginning of time, these two planets have been moving in their orbits at tremendous speed, yet remaining in perfect synchronization. For centuries to come, a full moon will appear every 28th day. A concurrence of events in respect of time gives man both day and night, winter and summer, at regular intervals. The universe, with all its planetary courses, is set to act in continuous harmony. Since synchronization is evident throughout our daily lives, why not apply it to our movies?

Suppose, for instance, an orchestra is playing a composition. Some of the musicians are playing it in march-time; the others are expressing themselves in waltz-time. What a bedlam that would be! So may the movie when little or no thought is given to synchronizing music and/or commentary in keeping with screened presentations.

When music, narration or both are used with the picture, and either or both are out of sync, it may be better to show the film silent. If music alone is the plan, then let the mood of it be in harmony with the picture on the screen. By that is meant, if the pace of the picture in one group of scenes is gay and lively—the music should also be light and allegro. On the other hand, when the photography is in a low key, choose music of that mood.

In amateur movies, often one of the above described sequences is followed by the other. When that occurs, music appropriate for the first would be out of place if allowed to continue one instant into the second sequence. It would be

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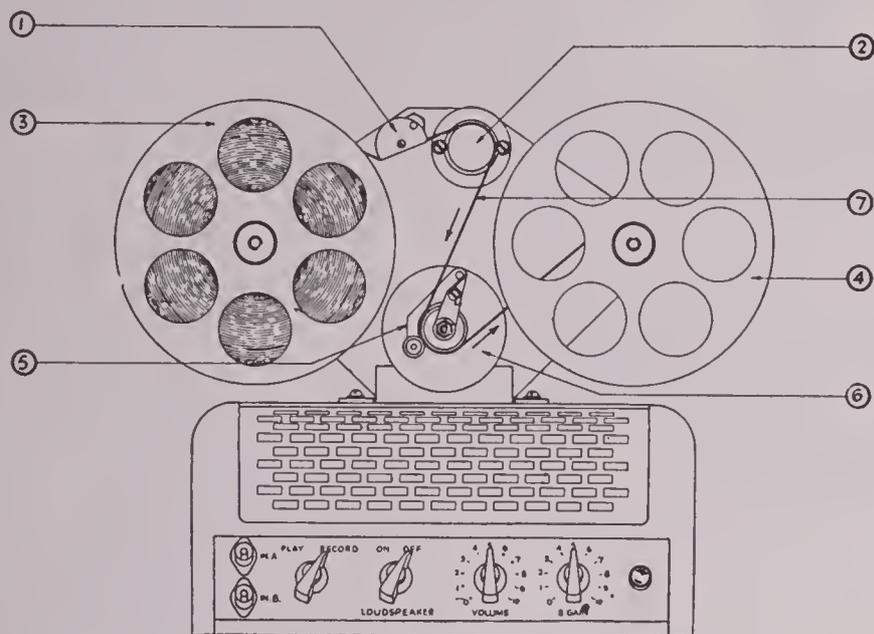


DIAGRAM of Scophony-Baird "Cine-Soundmaster," magnetic tape recorder-reproducer which may be coupled to most 8mm. and 16mm. silent projectors to provide synchronized sound with pictures. Components are: (1) erase magnet; (2) recording-reproducing head; (3) tape supply reel; (4) takeup reel; (5) tape guide roller; and (6) capstan drive and flywheel.

ALTHOUGH the need long has been voiced among movie amateurs in this country for a simple magnetic wire or tape recorder-playback unit affording synchronized sound for amateur films—a unit that could be coupled easily with any existing 8mm. or 16mm. projector mechanically or electronically—a British manufacturer is the first to recognize the amateur's needs.

Early in 1949, Scophony-Baird, Ltd., of London announced its Cine-Soundmaster, a magnetic tape recorder-reproducer which may be mechanically coupled to the mechanism of any projector by means of a flexible shaft.

The unit is described at length by K. G. Gould and R. I. T. Falkner, in *British Kinematography* for February, 1950.

Since the device is generally driven by a variable-speed projector there is no fixed tape speed, but the flexible driving shaft is always attached to a shaft on the projector which produces a speed of 1 turn per frame—usually the framing knob. In some cases, modifications to the projector are necessary to obtain a suitable drive source. Satisfactory adaptations have been made with more than 30 different makes of 8mm., 9.5mm., and 16mm. silent projectors as well as 16mm. sound projectors.

Component parts of the Cine-Soundmaster, as illustrated here, consist of a takeup spool, a supply spool, a recording-reproducing magnetic head containing

the electro-magnet, a permanent magnet for erasing, and a driving capstan with its associated flywheel and mechanical filtering device. The parts are assembled on a chassis which in turn is mounted on top of an amplifier. Circuit of latter is so designed that it serves dual function of recording and reproducing.

Tape used is standard quarter-inch coated with iron oxide. It is driven through a mechanism at three times film speed, i.e., approximately 15 inches per second with 16mm. film, or 21.6 inches per second at sound speed.

To make a synchronized sound track with the Cine-Soundmaster, the silent film is threaded in the projector and comparable start marks placed on the film and on the tape in the recorder. As the film is projected, commentary is spoken into the directional microphone. An extra input connection is provided in amplifier which permits channeling music into the track from phonograph records played on a separate reproducer.

Paramount Serving 25 TV Stations With Kinescope Film

Paramount Pictures is supplying more than 25 TV stations with kinescope recordings of high-Hooperated shows emanating from the company's Hollywood video outlet, KTLA. This makes possible high-quality programs on film at low cost to stations not linked by coaxial cable, and is potential source of significant revenue from company's activities.

Contest For Producers Of Professional Movies

Gateway Productions, Inc., 40 Fremont St., San Francisco, are conducting a prize film contest, offering prizes of \$100, \$200 and \$500 to producers of educational and documentary films as incentive for more and better films. Entry blanks are available by writing the company.

1949 Tops '48 In Business Volume For Technicolor Corp.

Technicolor operations in 1949 topped the previous record year 1948 in volume, profit and dividends paid, according to report issued by Technicolor, Inc., and subsidiary Technicolor Motion Picture Corp. Last year more feature-length productions—44 were produced in color by Technicolor than any preceding year.

Third Dimension Movies Demonstrated By Cinerama Corp.

Cinerama Corporation recently demonstrated for the press its three-dimensional process at Huntington, Long Island.

Pictures were shown on a 25-foot high concave screen. Three projectors were used, throwing an image from both sides and center of screen. A special 3-lens camera is used to photograph films for the Cinerama process, and is built to run at speed of 135 feet a second as compared to standard 90 feet per second speed.

New Film Editing Technique Cuts Time and Reduces Cost

George Amy, veteran film editor, now cutting "Sound Of Fury" for Robert Stillman, has evolved time and cost saving method of film editing, result of over 23 years experience in Hollywood cutting rooms. System requires only simultaneous cutting of picture and sound track prints and their splicing at that time, in order to run both simultaneously through a Moviola. Time saving is effected by thus being able to get feeling of entire sequence at once instead of going to projection room to have film and track screened. According to Amy, with this method complete rough cut can be ready in three or four days instead of usual seven or ten.

National Academy Of Sciences Elects Dr. C. E. K. Mees

For his services to science, Dr. C. E. Kenneth Mees, Eastman Kodak vice-president and internationally-known photographic scientist, has been elected to membership in the National Academy of Sciences.

Exhibit Of Scene Design Held For Television Industry

The first exhibit of scene design for TV ever to be presented took place April 21-23 at SRT Television Studios, a division of The School of Radio Technique, Inc., New York City. Event was held in conjunction with seminar on television and motion picture operations. On display was sample work of leading network and independent scene designers, which demonstrated how various problems imposed by limitations of TV camera are met.

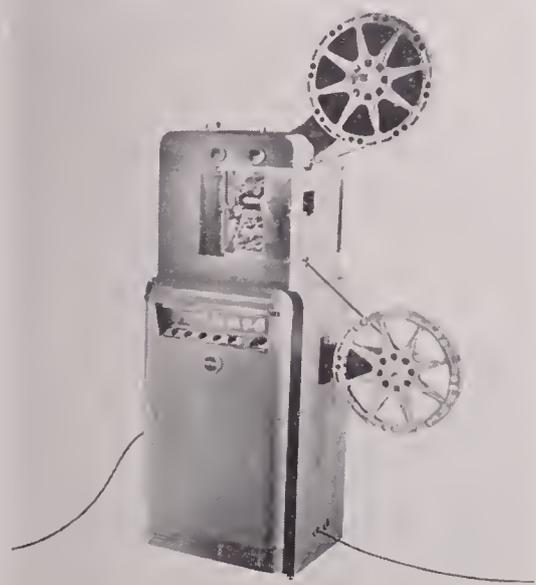
Two outstanding features of exhibit were live camera demonstration of rear screen projections as TV backgrounds and first New York showing of CBS's color television system.

"Pan-Cinor"—Novel Variable-Focus Lens With Seven Elements

The French publication, *La Technique Cinematographique*, described in a recent issue a new variable-focus lens of simple mechanical construction—the Som Berthiot "Pan Cinor." Unlike other lenses of the type, the adjustable components do not move in relation to one another; five elements are stationary and two are mounted upon a single movable barrel. The first "Pan-Cinor" to be made available is for 16mm. cameras and provides a variation in focal length from 20mm. to 60mm., at an aperture of $f/2.8$. All components are coated.

Intermittent Sprocket Feature Of New Eastman Heavy Duty 16mm. Sound Projector

FOLLOWING standard 35mm. practice, an intermittent sprocket is used instead of a claw-type, pull-down mechanism on



NEW EASTMAN 16mm. projector, Model 25, shown here with tungsten lamphouse, is a new auditorium-type projector giving greatly increased illumination, picture quality.

AnSCO Announces New 16mm. Color Duplicating Film

New Type 238 for making color dupe prints in 16mm.
now available in Hollywood, Chicago and New York.

ANSCO this month announced the availability in Hollywood, Chicago and New York of its New 16mm. color duplicating film Type 238.

The American Cinematographer learned that AnSCO has been carrying on "confidential" tests on Type 238 for nearly a year, and unofficial observers have indicated that the film has excellent definition as well as true color reproduction of the original.

Type 238 is designed to work with soft gradation color originals or masters. It has excellent keeping qualities. The film ships without the need for refrigeration or any special handling other than that which is considered good practice for the handling of black-and-white films. In this respect AnSCO's new Type 238 is no different than the family of other AnSCO Color films in 16mm. and 35mm.

With the announcement of Type 238, AnSCO now becomes importantly associated with the manufacture of color films

for professional use in both the 16mm. and 35mm. fields.

During the last four years AnSCO has brought out AnSCO Color 35mm. Camera Film Type 735. This is a soft gradation reversal camera film which has found wide acceptance throughout the world. It has been satisfactorily used to photograph theatrical and commercial short subjects and features in Europe, India, Africa, Australia, England, the Philippines, Mexico and other parts of the world. All of the material so far used has been processed in the United States at either the Metro-Goldwyn-Mayer laboratories in Culver City, the Houston Color Laboratories in Los Angeles, or the Pathe Laboratories in New York City.

Type 735 may be printed on AnSCO Color Release Film Type 732 or used in conjunction with Technicolor, Cinecolor and comparable color printing processes.

AnSCO reportedly has made available to several studios in Hollywood samples of its new 35mm. complimentary negative and positive films.

These films have been subjected not only to extended photographic tests, but as well to rugged handling tests. One studio transported and shot the new AnSCO negative on location abroad in the same manner as black-and-white film. The material was returned to Hollywood without benefit of refrigeration for processing. Examination of this color negative indicated no deterioration in any physical way, and its latent image quality was comparable with material exposed and processed in Hollywood. This also applies to the new AnSCO Color Positive.

AnSCO has in the last four years demonstrated its ability to manufacture films which have found wide acceptance within the industry. Because of the widening interest in color films in all fields of motion picture production and the additionally important part they will play with the advent of color television, top executives within motion pictures are watching with keen interest as well as anticipation the work of this important American manufacturer of photographic products.

(Continued from Page 201)



A 'MUST' For Every Motion Picture Photographer Professional or Amateur

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- **LENS ANGLES** — Horizontal and vertical angles by degrees as obtained by lenses of various sizes.
- **CLOSEUP DIAPHRAGM CALCULATOR** — Shows changes in effective aperture for the measured light value when shooting small subjects at close range.
- **LIGHTING EQUIPMENT** — all kinds analyzed and described.
- **DEPTH OF FOCUS** — for most all lenses.
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shot. This "plants" the geography of the scene in the minds of the audience: and you've got to remember in any kind of film that although you, who made the picture, may have a clear idea of the general layout of the locale, your audience wasn't there and they probably won't be familiar with the arrangement of the place or the room. A good long-shot, held for a fair footage at the beginning of the sequence, will tell them where it is, and what it's like.

But in a long-shot you can't very well see the details of the scene, or follow the details of the action. If you want these details in real life, you move up closer. A medium-shot does this for the camera.

There are times when ordinary close approach is not enough to show the important detail of any thing or action. Then, in actuality, you try to get within arm's length of whatever you're looking at, and get a closeup of it. That's the closeup's primary function in movies.

Now, to bring this discussion to a more practical plane, suppose we're making a vacation-movie in Zion National Park. Still supposing, let's say we open with a pictorial long-shot of the Great White Throne. It shows the scene perfectly, including, in the middle distance, a car with some people around it. We don't know who they are, or what they're doing, but there they are. A medium-shot could follow, and show that they were Cousin Dick and his brother-in-law, and that Dick was doing something to the car. Coming nearer for a closeup, we learn that Dick is changing a tire. And if we want to come to an extreme, big-head closeup, we can prove that Richard is perspiring copiously!

The same thing applies to scenes in which we are more interested in what is being done, than we are in who is doing it. Suppose instead of Cousin Dick, we have an expert service-man at work: the long-shot shows where he is; the medium-shot shows who he is and what he's doing; and the closeup shows how expertly he's doing it.

Just which of these angles is best for any given scene can usually be determined by the idea we're trying to get across to the folks who see the film. If that idea is "where" or "what," the longer shots are best; if it is "who" or "how," closer shots are vital. Filming a big league ball game, a long-shot will show it's the Yankee Stadium—but only a closeup will prove that it's Joe DiMaggio batting, or show how he bats.

This business of picking camera-

angles can do a lot more than this, however. How often have you seen pictures of people in dark clothes carefully posed in front of dark green shrubbery—or folks in light garments merged into light-colored backgrounds? Nine times out of ten, a little thought of camera-angles—selecting an angle that offers a properly contrasting background—will save a world of projection-room apologies.

And there are other embarrassments that can be avoided by similar thought of the camera's viewpoint. The other day, for instance, a friend of mine proudly showed me a shot he had made of his wife. It was a nice shot, but it was just too bad that a nice, bushy palm tree in the background seemed to be growing straight out of her head! Two steps to the right or left would have eliminated the Zulu head-ornament. Another chap showed me a scene in which his girl-friend walked from her front door across the lawn and got into a car. She was really quite pretty—but I don't think she was nearly strong enough to do what the scene made her do: my friend shot straight across the lawn, and just as she entered the picture, a car went by on the cross-street at the corner. In the photo, the girl seemed to be pushing it before her like a baby carriage! Of course, only a professional movie troupe can control traffic in the background and prevent inopportune cars from stealing the scene—but anyone can choose a camera-angle which does not show the cross-street.

The physical limitations of the amateur movie camera must be considered in camera-angling on some types of action. Especially fast-moving action. At normal speed, the shutter of the average home movie camera gives an exposure of from $\frac{1}{24}$ second to $\frac{1}{40}$ second, depending on the make of camera. This is hardly enough to "stop" really fast motion, so to get a satisfying, unblurred picture of a fast-moving object, we must resort to camera-angles. What actually causes the blur is not so much the actual speed of the object as the distance its image moves across the film during the exposure. If, for example, we are photographing an airplane, using a camera with a $\frac{1}{40}$ second shutter opening and choose a camera-angle in which the plane moves directly across the picture, it is obvious that during our $\frac{1}{40}$ second exposure, the image of even a slow plane is going to move quite a bit across our frame during the short interval the shutter is open. On the other hand, if

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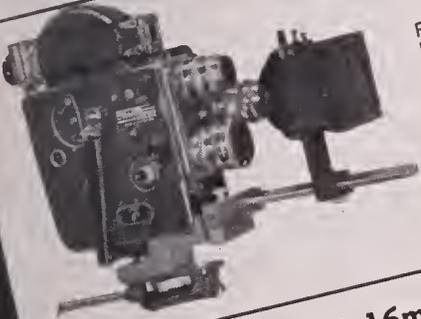
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5 1/2 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.

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

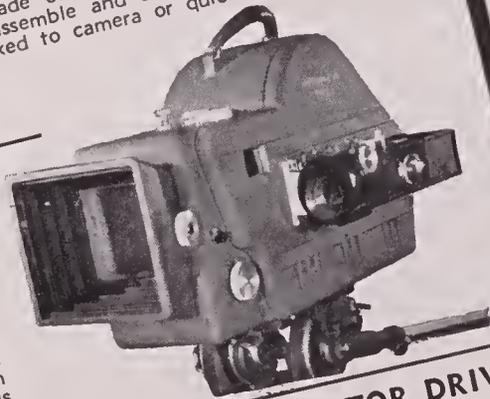
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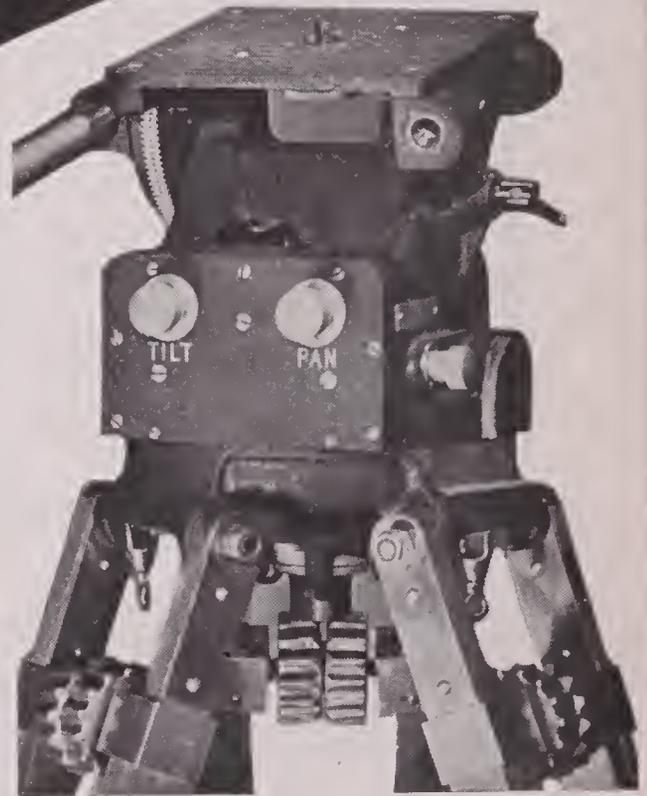
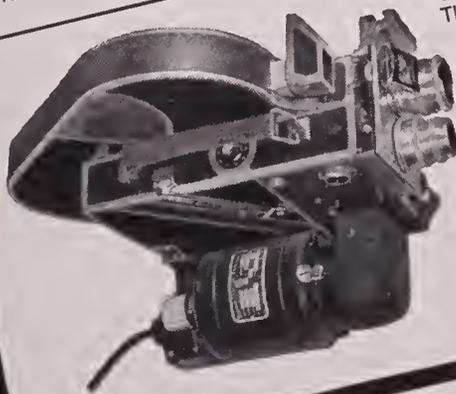
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This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive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



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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 1/4" and 3/8" camera tie-down screws. Rubber covered cable with plugs included.



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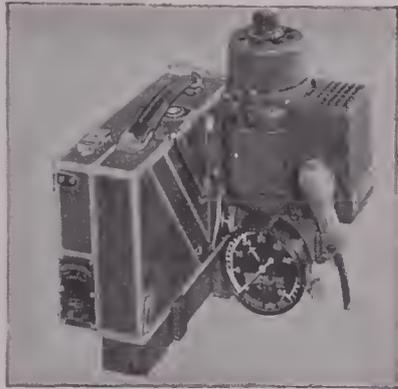
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we choose an angle at which the plane is moving toward the camera, its image won't spread itself over nearly as much of our frame during the exposure. Therefore, the best angle to use in getting shots of fast-moving objects of any kind is one at which they are coming toward the lens. In most cases, a $\frac{3}{4}$ -angle is best, but for very fast-moving objects, it is often necessary to shoot "head-on," to minimize the blur. But if it is not possible to place the camera at such an angle—if you must shoot full broadside-on—you can still minimize blur by getting farther away from your subject. True, you will have a smaller picture of the thing, with a lot of background you may not particularly want; but since the image of the object is smaller, its movement across the frame will also be smaller, and the picture will be less blurred.

If you want your audience to understand your scene quickly and easily, shoot your scenes from simple, "head-on" viewpoints. If the action is in itself clear enough to get itself understood, then—and only then—is it safe to use unusual viewpoints or camera angles.

OPTICAL EFFECTS WITH ANY CAMERA

(Continued from Page 198)

with the lens capped or shutter closed, and the action repeated until all three sections of the film frame have been exposed.

Producers of 16mm. commercial films, for example, may use this effects device in a number of ways to add a cinematic fillip to their films, or to secure eye-arresting effects for TV film commercials. The revolving image effect might be employed to concentrate attention on a sponsor's product with a multiple close-up. The split-stage effect can be used to center attention on three or four related activities at one time, where showing them simultaneously on the screen clarifies the operation for the audience or makes more clear the steps necessary in a complicated operation. Such treatment is ideally suited for training films, also.

It isn't difficult to imagine the impetus to a comedy routine that the multiple image effect could lend to a variety program on television—the vision of a drunk or the comedian "bopped" over the head; Ed Wynn with spots before his eyes which gradually metamorphose to images of a pretty girl, etc. The possibilities of this device for television cameras are tremendous.

But it's the 16mm. film producer who stands to effect marked savings in the use of the device. Through its use, costly effects made outside his studio are no

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longer necessary, and he can now write special effects into his scripts that hitherto have been avoided because of the expense.

Cameramen and producers in the New York area are invited by The Camera Mart to drop into their offices at 70 West 45th Street for a demonstration of the Camart Optical Effects Unit. Those outside the area are invited to write them for more descriptive data.

SYNCING SOUND

(Continued from Page 202)

Absolute sync analysis of the above narrative and actions is as follows: Scene 1—Self-explanatory in the action; however, time of day, the exact day of the year, and the season are made known in a simple, concise manner. Scene 2—"John" is simultaneous with the very first frame that shows the man as he emerges from the door. The woman, being almost directly behind the man, will come into view when the word "Mary" is spoken. Since some cause must prompt any action, we state their intentions as they progress rapidly down the walk to the car. Scene 3—To say, "John opens the door for Mary" would be the equivalent of—"This is a horse," so we twist just a little politeness into the script, in order to prolong a necessary scene.

Remember, it takes a few extra seconds to open a car door, seat someone, and again start the swing of the door. For the scene we choose the key word to be "respect" and it is spoken as the car door is opened for the woman to enter. It draws attention to John and his gallant action, without specifying the action by name. In Scene 4—we select two key words. The first is "demonstrative," and the second is "but," and are explained thus: Since there was a scene change during the door operation, we again call attention to an action which must be completed, but from another camera station. Too, Old John is still in the highlight of his chivalry. "But," the second key word, is selected because that is the point where John freezes on the spot and stares. Scene 5, of course, would make anyone stare, and the key word could be none other than "Flat," and spoken at the scene change to the tire.

"Key" words serve to "clinch" the scenes, and give the observer a feeling of being right there on the spot—in other words, leading his thoughts, therefore, maintaining interest throughout the film. Better still, your words are pointing out that which you *desire to be seen* in the picture. Never leave your audience

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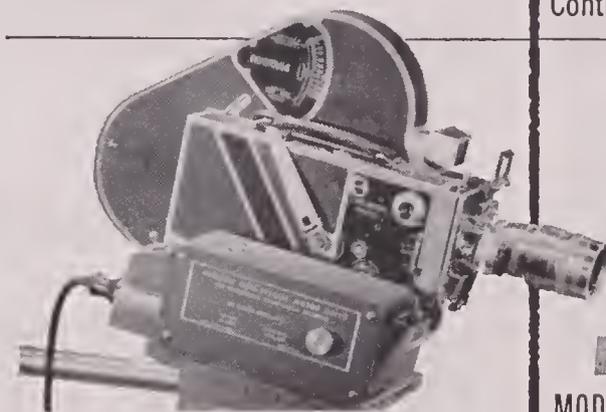
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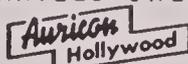
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to grasp what they can while a narration lags behind.

Probably every amateur movie maker seeing 35mm. productions, has occasionally noticed a little white or black circle flash in the upper right corner of the theatre screen. For those who have never noticed such, they are "cue" marks. These indicate sync points on the film, and are observed by the projectionist. If he misses one, you will certainly know it. If none are missed, the picture will continue smoothly. These marks simply mean "get ready" and "go" for a film change-over.

In our films, a change-over is not necessary. We can, however, profit by using a similar cue system in synchronizing sound in its various forms. Small ink dots can replace previous grease pencil marks. Place them in the upper right corner of the frame for permanence. If care is used in placing these, you, no doubt, will be the only one ever to see them. They will be an aid as long as you use the same form of presentation.

For those who have a tape recorder, and also have a constant-speed projector, that is, a sound-on-film projector (no rheostat controlled projector will maintain constant speed), syncing music and narration is a matter of practicing the foregoing procedures until perfection is attained. Then, plug in the mike and record. When playing back your recording in sync with your picture, if one or the other of the two machines gains or lags, try these methods: When film is projected at 24 f.p.s. and is leading the tape recorder, trip the Sound-Silent Switch rapidly up and down. This will bring the picture back into sync. Conversely, if the tape is leading your film, trip the Off-On Switch of the tape machine until sync is attained. These operations will go unnoticed on the screen and sound system.

NOTE: Author Gray's advice on syncing sound with home movie first appeared in a recent bulletin of the Washington (D. C.) Society of Amateur Cinematographers, of which Gray is a member. We are indebted to the Society as well as to Mr. Gray for affording us opportunity to bring this highly instructive data to our cinefilmer-readers.—ED.

MOVIE AMATEURS

Complete details of American Cinematographer's 1951 Amateur Film Competition will appear in the July issue. Next year, competition will be international in scope, with the best amateur movie makers throughout the world competing. Plan your entry now for this important amateur event and be sure to watch for full details in next month's issue.



INFRA-RED EVALUATOR

(Continued from Page 106)

task of recording chosen materials for costumes with a still camera—first with Plus-X film, and then with infra-red, and comparing the resultant prints as a check on tonal variations. Obviously this was a tedious task, and a costly one. The problem intrigued Alexander Velcoff, assistant to Manny Spack, U-I's wardrobe supervisor, and being something of an amateur physicist with considerable knowledge of electronics, he set about to find a quick answer to what had now become an almost daily problem. Velcoff knew something about the extensive war-time developments of the Germans for detection of infra-red radiation and reasoned that an application of their methods would enable him to inspect fabrics and objects to determine fidelity of color or tone when viewed under infra-red light.

The heart of such a gadget required an infra-red image-converter tube and these, Velcoff, found were unavailable in the United States, the government having declared all such tubes manufactured here "classified" for security needs. A further check by Velcoff revealed the British had produced such tubes and had disposed of a quantity in the U. S. to war surplus outlets. A number of these tubes were purchased from this source and Velcoff, aided by the studio's Special Photographic Department, proceeded with construction of his first infra-red photographic evaluator.

A brief description of the infra-red image-converter tube may be of interest. Actually, there is nothing novel in the principle of this tube which is, in effect, a form of photocell in which the anode is replaced by a fluorescent screen. During the war the main advance was in the direction of production design and technique. The tube envelope consists of an evacuated cylinder of Pyrex glass about 5 cm. in diameter and 4cm. in length, with the plane end-windows 2mm. in thickness. A semi-transparent silver caesium oxide photo-cathode, with photo-emissive sensitivity out to about 1.3 microns, is deposited on one end-window by a technique similar to that employed in standard photocell activation. A Willemite screen deposited on a thin plane glass plate is mounted parallel to the cathode and separated from it by 5 mm. The screen may be viewed through the window remote from that carrying the cathode.

The evaluator, shown in an accompanying photo, consists of a tubular housing about 18 inches in length and 2½ inches in diameter. In the front of this tube is mounted a standard photo-

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Carolyn Guss, Audio-Visual Center, Indiana Uni., says, in part: "Photographically and esthetically it is an outstanding production. Its excellent documentation and beautiful photography highly recommend it."

Vett Cowles, Flint, Mich., says: "Film is GREAT. I was down there twice and I did not do so good."

Morgan Atkins, Dallas, Texas, says: "I am very well pleased. Your use of Pola-Screen brings out hidden qualities that makes this an outstanding film."

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graphic lens in focusing mount. Within the tube, immediately back of this lens is a filter holder, then the infra-red image-converter tube. Then follows a set of image erecting lens elements, and finally the magnifying eyepiece at rear of tube. The image-converter tube is powered by 4,000 volts at 1 milliamperes from a power pack mounted immediately beneath it and fed by 110-volt AC current. Two standard 110-volt infra-red lamps are mounted in swivel sockets immediately below and at the front of the evaluator device and furnish illumination for the object or materials to be surveyed.

Weighing but 17 pounds, the evaluator may be carried to any department or stage on the lot, permitting instant check of costumes, makeup or properties. Two additional models to be built will operate on current supplied by dry cells, affording use of the evaluator independent of 110-volt power supply.

In use, the evaluator is set up, plugged into the power source, and the lens focused on the object to be tested. Focusing and observation of the results is accomplished by looking through the tube eyepiece.

In explaining the evaluator's operation, Velcoff said: "Infra-red radiation falling on the cathode of the infra-red image-converter tube within the evaluator releases electrons which are accelerated by application of a high voltage to the anode. Here the electrons form a

fluorescent image corresponding to the initial infra-red image. The brightness of any element of the fluorescent screen will depend upon the number of electrons impinging on that element of the screen, so that graduations in intensity of infra-red radiation falling on the cathode will be reproduced in the fluorescent image corresponding to the variations in infra-red reflectivity in the original scene.

"The image tube is an electronic lens whose element is sensitive in the infra-red region where the eye is not. The sensitivity of the human eye lies between 400 and 740 millimicrons. A caesium cell or a caesium-silver oxide photo cell is sensitive out to about 1200 microns, while film commonly used (Eastman infra-red negative type 1210) is sensitive out to about 920 millimicrons. The use of appropriate filters is necessary to cut off the extended sensitivity of the photocell beyond that of the type of film used, and also there is a filter used to confine sensitivity within the limits of the tube and to keep it from being actuated by ultra-violet light—comparable to the limits imposed upon the activation of the film used. A Kodak gray scale is used to compare the gray tones with those of the subject under test. By this method we are able to keep within the confines and limits of the working infra-red spectrum. In the case of the fabrics illustrated here, the variations in reflectivity are caused by the response of the chemical compon-



BALLOON TIRES now replace small hard casters on 20th Century-Fox's towering steel parallels, affording greater mobility and effecting savings in production time. John Lavin, studio's grip department head, is responsible for idea. Other studios reportedly are adopting the idea.

ents of the dyes that respond at particular frequencies."

The infra-red photographic evaluator proved a decided asset to both the wardrobe and makeup departments during the recent filming of Universal's "Winchester 73," in which considerable footage was shot with infra-red film. The studio is now able to check wardrobe costumes and fabrics far in advance of filming and to effect makeup tests sufficiently early to avoid costly delays on the set.

TELEVISION NEWSREEL

(Continued from Page 195)

Berg, many years manager of the Twentieth-Century Fox film lab, Far Eastern Theater lieutenant-colonel in charge of photographic units during the war, and recently technical director for J. Arthur Rank.

To this combination of newspaper and motion picture experience were added men from the radio and theater newsreel fields. George Martin Jr., KHJ newscaster who put in 36 hours covering the Kathy Fiscus tragedy, was hired. Charles "Chub" Lehmann, 35 years a cameraman for Fox Movietone news, was brought in. Faced with a deadline because of commercial commitments, the entire newsreel staff of 11 men was assembled, and within 12 days a complete motion picture laboratory was built inside a few plaster-walled rooms of an old building at the corner of 2nd Street and Broadway. Electrical and carpentry work in the lab was completed on November 20. The next day the staff moved in and went on the air that night with its first newsreel.

Of course there had been no time for dry runs with any of the nearly \$15,000 worth of equipment that had been assembled. Naturally the men found "bugs" in nearly all of it. But these were ironed out during actual production. Compare this with a New York TV newsreel which went through three months of daily dry runs before hitting the air.

The success of the Los Angeles reel is best told in its ratings. Within two months after its birth the show had moved into the top ten bracket of multi-weekly shows in the Los Angeles area. Much of this success is rightly due to the Los Angeles Times. Without the news tip service supplied by the paper, the reel would lose its punch. The men responsible for the close liason between the paper and the newsreel are L. D. Hotch-

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kiss managing editor of The Times, and Bud Lewis, city editor.

To best understand how the newsreel is put together a description of the show itself is needed. The program is 15 minutes long. It contains 12 minutes of news, 30 seconds of main and end titles and two minutes of commercials. In news content it carries from 10 to as high as 19 news stories each edition. In length these stories vary from 20 seconds to 3 minutes.

The reel's contents differs from the theater newsreel in many ways, but mostly in timeliness and pictorial appeal. Hot news stories seldom hit motion picture theater screens in less than two to three days after they break. KTTV Television Newsreel breaks its stories the day they happen.

In regards to pictorial appeal, the reel lays less emphasis on this in its effort to bring viewers news and not just features. Much of the reel's contents consist of court stories, city legislation and public controversies. These stories lack pictorial appeal, perhaps, but they are news. And the reel carries them, using personalities, places and sound-on-film interviews to do it.

To round out national and international news, stills are employed. Allison and Berg have developed a means of moving the camera across the pictures (zooming in close, dollying back, panning) that gives life to stills and provides animation for eye appeal. For this, an Acme animation stand and camera is used. Following a plane crash in Dallas, Texas, the story was put on the air, using 13 wirephoto stills the day it happened. "Better than waiting three days for movie films to arrive," said Berg.

In addition to the staff mentioned, the reel employs a lab technician, three other cameramen, a film editor and narration writer. Duties of these men are clean-cut but because of the amount of film which must be produced every day, each man is trained to fill in for other functions.

The cameramen use Bell & Howell Filmos, also an Auricon single system sound camera on assignments where sync sound is essential, as in interviews, etc. The lighter Filmo equipment also includes compact photo-flood lighting units that bolt to the cameras and 50 foot cables affording plug-in to 110 volt lines at almost any location. Ben Berg, who supervises the technical end, soon will have portable battery equipment that the cameramen will strap around their waist. This will furnish power for special 30-volt photo lamps, thus making them independent of 110-volt power sources and broadening the scope of their filming activities.

Film used in the cameras is DuPont No. 330 Panchromatic reversal, in day-

light loads, perforated on one side for sound. The Filmo cameras, incidentally, have sprockets with one row of teeth to take this film.

Eventually, says Berg, all sound for KTTV's newsreel will be recorded on magnetic tape by machines completely battery-powered — thus further unshackling the cameramen from the limitations imposed where power lines must be tapped.

Important adjunct which makes this TV newsreel project feasible is the rapid processing which the film receives. A Houston automatic 16mm. film developer daily processes from 1500 to 2000 feet of film exposed by the cameramen, turning it out fully dried and ready for screening at the rate of 300 feet in 30 minutes.

To save time this film is often edited "on paper" before it even comes out of the processing machine. Scenes are timed and laid out in order so the narration writers can start to work before the film has been viewed. Another time-saver is the practice of starting assembly of the reel before all the stories are out. This enables one film editor to edit and splice late stories while another staffer is putting the reel together. These late stories are then spliced in before the reel is sent to KTTV for showing.

After assembly of the reel is complete, one rehearsal is held at the newsreel lab with announcer reading the narration. This gives staffers a chance to check position of stories, titles, commercials, que marks, and synchronization of narration with scenes. Often, however, late-breaking news stories hold up final assembly to a point where such a rehearsal is not possible. Then the reel is aired "cold" while Allison and crew pray everything is in right. To date there has never been an upside-down title.

What's in store for the future?

Well, one thing clear is that within five years television news coverage will rank in importance with radio and newspaper coverage. TV viewers today don't expect up-to-the-minute coverage. But when television gets its growth, they will. And this coverage will be supplied in the same way the KTTV Television Newsreel is doing it now. On-the-spot coverage with 16mm. cameras. Perhaps 35mm. later, but it will be a long time before the average television station can afford this luxury of better picture quality.

Meanwhile, a vast new field is opening up for the 16mm. cameraman. And it calls for more than ability to handle a camera. The television newsreel staffer must also be a reporter. For he tells his story with film and camera just as the news reporter tells his with words — but with no chance to re-write. **END.**

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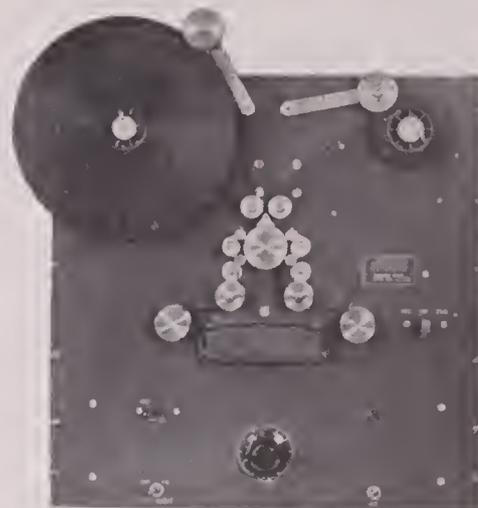
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MATCHING LOCATION FOOTAGE

(Continued from Page 197)

as well as artistry." In the opening scenes the two principals are seen trotting along a road in the Italian Alps. A couple of very good doubles were used for this in Italy. Later on the two leads in the picture were filmed in a close dolly shot along a road in Sherwood Forest in California. Following scenes were played under a real tree at Sherwood, and the concluding scene in the sequence was a shot made in Europe showing the doubles making an exit. In all of these shots, great care was taken to match the lighting conditions exactly.

Another sequence in the picture shows a car driving up to a French cafe. The Paris location shots were made with the cafe completely in deep shadow, which meant that when the semi-long shots of the cafe were shot on the studio stage, La Shelle had to light the exterior to

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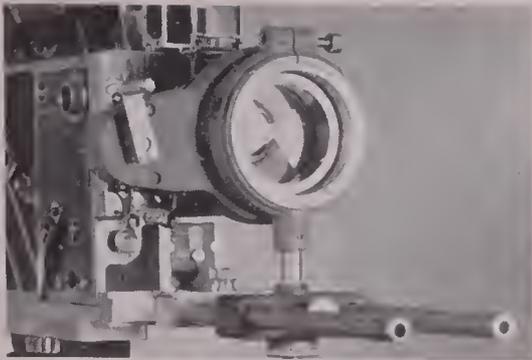


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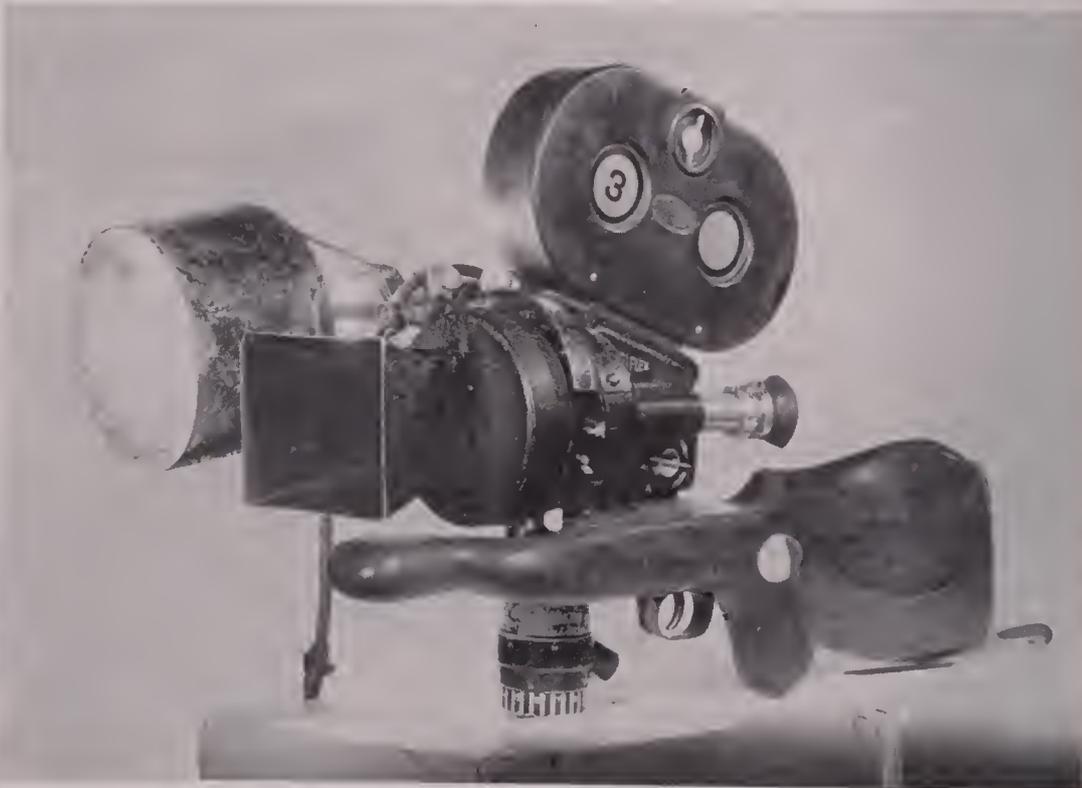
simulate the deep shadow. As he moved in for closer shots of the cafe, he increased the light value in the shadow area until the light was normal. This change was so skillfully made that it is not apparent as such, and actually simulates what really happens when a person walks into a shadow area—the contrast becomes less apparent as the eyes adjust themselves to the light condition.

As mentioned before, the matching of the race track footage was especially difficult because of the varying conditions under which the location footage was shot. All that was actually built at the studio was a section of railing and a ramp to match the slope of the ground. This is one instance in which the Los Angeles smog and haze worked in favor of the cameraman, neatly obscuring the Hollywood hills and hiding the Beverly Hills High School from view. The resultant shots match the location footage perfectly. A majority of the studio action was filmed against process plates provided by scenes shot on location, following the usual procedure of staging live action in front of translucent screens on which background scenes are projected by rear projection. Thus the authenticity of backgrounds was maintained throughout.

Micheline Puelle, outstanding French actress who plays the feminine lead in "Under My Skin," has a particular type of beauty which requires front lighting. This created a great problem in filming process shots, since too much front light would tend to "wash out" the projected

background scene. After discussing the situation with E. J. Shyder, head of the 20th Century-Fox Process Department, and process cameraman Ed Hammeras, La Shelle worked out a system of using a very long focal length lens which allowed him to place the screen a good distance in back of the players without making the backgrounds seem large and out of proportion. In order to carry the focus sharp on both the players and the screen, it was necessary to over-light and stop the lens way down. By having the screen back far enough, La Shelle was able to light Miss Puelle with the flattering front lighting, carefully masking it off the other players, and lighting them from the same direction as the sun in the background scene. The resulting shots did justice to the feminine star, while yet preserving the realism of the French race track. So perfectly balanced are background density and subject lighting that the scenes have no appearance of being process shots.

Joseph La Shelle, A.S.C., who won a gold Oscar for his photography of "Laura" a few years ago, is considered one of Hollywood's exponents of mood lighting. In "Under My Skin," he has achieved an unmistakably foreign atmosphere; whether the scene shows a Paris boulevard by moonlight or a smoke-filled bistro, the lighting key and photographic mood are authentically slanted to reproduce the atmosphere of the actual situation. As always, La Shelle's lighting of the principal players is a superb achievement—he manages to bring out Miss



GUNSTOCK mount for Arriflex camera makes possible smoother shots without effect of body weave, etc. Mount was made specially for personal camera of Stanley Horsley, U-I's Special Photographic Dept. head. Horsley uses camera on location scouting and for special shots requiring hand-held camera. Lamp housing on opposite side holds an RFL for fill light.

Prelle's ethereal charm while at the same time lighting John Garfield to accentuate his ruggedness. "Under My Skin" is an outstanding example of the way in which technical and photographic skills are combined to do a prodigious task and yet are employed so skillfully and unobtrusively that attention is never distracted from the dramatic impact of the action.

ITALIAN LOCATION SCENES FILMED BY GASLIGHT

(Continued from Page 195)

had given the town a mayor who didn't appreciate what movies could do for his pet tourist attraction.

As darkness enveloped the sea, we saw in the distance what appeared to be hundreds of tiny lights dancing on the water, like bright stars. Inquiring of a hotel attendant, we were told they were the lights on fishermen's boats used for night fishing. Another added the interesting fact that the lights were gas-fed and extremely brilliant, and it struck me that here, perhaps, was the answer to the lighting problem for filming the Blue Grotto.

The next morning I went down to see the fishermen and their boats. Perhaps fifty small but sturdy wooden rowboats were tied up in the waters of the bay. Mounted in the bow of each was a metal stanchion which rigidly supported a gas lamp fitted with Welsbach burners, similar to our Coleman gas lamps in this country. I was told each lamp gave light of 2000 candlepower.

Explaining the purpose for which they were wanted, I arranged for 20 of the boats and their men to appear at the Blue Grotto the next day. For our camera and crew, we engaged a sturdy motor launch, and another rowboat with oarsman in which Joseph Cotten and Miss Fontaine were to ride through the Grotto as the main part of the action.

Came time to shoot the scenes next day and a major problem faced us. The lamps, we found, threw a tremendous amount of light on the water but none on the walls of the cavern. Each lamp was fitted with a wide circular brim for a reflector. Moreover, the lamps were in vertical position and could not be adjusted to throw light upward on the rocky interior of the Grotto. We soon solved this, however, by having the men sit on one side of the boats, tipping the craft slightly so the lamps would tilt and throw light where we wanted it.

The light from the gas lamps was more than ample. I've forgotten exactly

(Continued on Page 221)

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Bell & Howell's New Eight

Budget priced and easy to use is new 8mm. magazine loading camera just announced by Bell & Howell Co., Chicago. Known as model 172-B, new camera embodies a host of exclusive features such as new exposure calculator, positive noperallax viewfinder, five speeds rang-



ing from 16 to 64 f.p.s. and a single-frame release.

A new B&H half-inch f/2.5 Comat lens, recent development of B&H, brings new sharpness of detail to 8mm. movies. Lens has click-stops and easy-to-read calibrations. It is interchangeable with other accessory lenses.

Weighing but 32 ounces, new camera is dove grey, abrasion-proof Tolex, a handsome, tough vinyl leatherette. With lens described, price is \$129.50.

Eumig 88 Camera

Camera Specialty Co., 50 West 29th St., N. Y. 1, has been appointed distributor for the new Eumig 88 8mm. cine camera, manufactured in Europe. Equipped with f/1.9 coated lens, camera features built-in automatic photo-electric exposure meter—exposures and diaphragm settings are correct at all speeds. Other features include starting button lock, single frame exposure; patented film looping device; three speeds—8, 16 and 32 f.p.s. Price is \$139.50. Carrying case \$10.00 additional.

Sound Track Desitometer

Photovolt Corp., 95 Madison Ave., N. Y. City, announce a new sound track densitometer for measuring density of sound tracks on 16mm. and 35mm. motion picture film and for evaluation of sensitometric step-tablets. It is suitable also for general black-and-white and color desitometry. Meter comprises two units: the density unit proper and Elec-

tronic spot-photometer Model 500-A. Film track is shaped to guide film along both edges in such a way that sound track is in accurate alignment over a slit 0.020" wide in the aperture slide.

Brochure giving complete technical description is available on request.

Film Developing Tank

Micro Record Corp., 30 E. 10th St., N. Y. City, announce a new film developing tank that automatically processes 8mm., 16mm., 35mm. and 70mm. film in lengths up to 100 feet. This motor-driven, portable and fully-automatic machine is designed for daylight operation. Film travels back and forth on reels in solution. Both reels reverse automatically when feed is unwound to within 4 ft. of end. Made of unbreakable plastic, processes microfilm, also. Descriptive literature and prices available by writing company.

New Photo Cell

Photo Research Corp., 127 W. Alameda, Burbank, Calif., announce availability of a new photo cell for exposure meters by which existing meters of any make can be modified to have the same spectral sensitivity range as color film. Full information and cost of modification may be had by writing above company.

New Peerless Service

Peerless Film Processing Corporation announces that equipment for Peerless film treatment has been installed in the laboratory of Wilding Picture Productions, 1345 Argyle St., Chicago, Ill.

Norwood Meter Price Reduced

Director Products Corp., N. Y. City, announces reduction in prices of the Norwood Director light meter from \$35.97 to \$31.95, including Federal Excise Tax. New price includes Photosphere, Photodisk and Photogrid, all of which are interchangeable, plus instruction manual, registration guarantee card, ASA index guide and calibration certificate—all in an attractive, satin-lined box.

Flower Photography Booklet

Eastman Kodak Company has issued a new free pamphlet outlining the technique for making good photographs of flowers. Pamphlet is an attempt to reduce to as simple terms as possible the

steps involved in producing striking flower closeups with ordinary simple cameras. The data is helpful to cine cameraists, too. Booklet explains construction of simple frame which will tend to eliminate problems related to centering and focusing and picture composition. Free copy may be obtained by writing Sales Service Division, Eastman Kodak Co., 343 State St., Rochester, N. Y.

Microphone Boom

The Camera Mart, Inc., 70 West 45th St., N. Y. City, announce their new improved Camart Mike Boom is available. Improved model, known as TF-10, features a 13-foot extension arm, strut-wire reinforced, with an adjustable iron counterbalance weight to support any microphone. In full elevated position, boom reaches height of 8 feet and has an efficient dependable lock for pan and tilt action. Mike may be completely rotated by handle at rear. Three-inch rubber-tired ballbearing wheels make for silent movement. Boom may be quickly folded for transportation in any automobile. Price is \$261.85.

New Bolex "8" Projector

Paillard Products, Inc., 265 Madison Ave., N. Y. City, announce newest addition to Bolex line of cine equipment — the Bolex M-8 projector — light, bright, handsome straight-eight, priced



at \$167.25. Features include rapid, positive "snap" threading; gate can be opened and cleaned while film is running; automatic loop former; room-light coupling for automatically turning room light on and off; filtered light to prevent heat damage to film; 500 watt lamp; simple motor rewind, and coated 20mm. f/1.6 Kern-Paillard projection lens.

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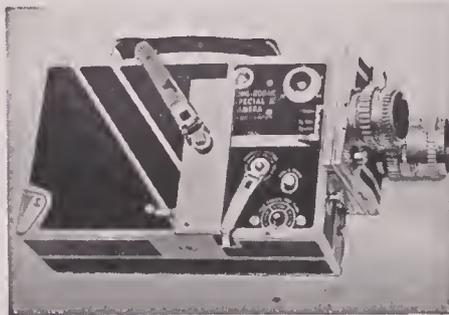
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Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

- FLOYD CROSBY, "The Brave Bulls," with Mel Ferrer, Eugene Iglesias, Anthony Quinn, Jose Torvay and Charlita. Robert Rossen, director.
- BURNETT GUFFEY, "The Bedside Manner," with Larry Parks and Barbara Hale. Eddie Buzzel, director.
- JOSEPH WALKER, "Hariett Craig," with Joan Crawford, Wendell Corey, K. T. Stevens, and William Bishop. Vincent Sherman, director.
- W. HOWARD GREENE, "Al Jennings Of Oklahoma," with Dan Duryea, Gale Storm, William Bishop, Dick Foran. Ray Nazzaro, director.
- IRA MORGAN, "Chain Gang," with Douglas Kennedy, Marjorie Lawrence, Emory Parnell. Lew Landers, director.

Eagle-Lion

- LIONEL LINDEN, "Prehistoric Women," (Alliance Prod.) with Laurette Luiz, Alan Nixon, Tony Devlin, Mara Lynn. Gregg Tallas, director.

Independent

- JACKSON ROSE, "Delayed Action," (Crystal Prod.) with John Howard. Edward L. Cahn, director.
- JACK CARDIFF, "Pandora And The Flying Dutchman," (Lewin-Kaufman Prod., shooting in Europe) with James Mason, Ava Gardner. Albert Lewin, director.
- ROBERT DEGRASSE, "The First Legion," (Leo Prod.) with Charles Boyer, William Demarest, Walter Hampden, Barbara Rush. Douglas Sirk, director.
- MARCEL LEPICARD, "Again Pioneers," (Protestant Film Comm.) with Colleen Townsend, Regis Toomey, Russell Hicks, Sarah Padden. William Beaudine, director.
- PAUL IVANO, "The Second Face," (EJL-Film Classics) with Dick Haymes, Roland Young, Allen Jenkins, and Beatrice Pearson. Edgar Ulmer, director.
- PHIL TANNURA, "Hijacked," (Lippert Prod.) with Jim Davis, Marcia Mae Jones, Paul Cavanaugh, David Bruce. Sam Newfield, director.
- KARL STRUSS, "The Return Of Jesse James," (Lippert Prod.) with John Ireland, Ann Dvorak and Henry Hull. Arthur Hilton, director.

M-G-M

- ALFRED GILKS, "The Tender Hours," with Jane Powell, Ricardo Montalban, Louis Calhern, Ann Harding and Phyllis Kirk. Roy Rowland, director.
- HAROLD ROSSEN, "To Please A Lady," with Clark Gable and Barbara Stanwyck. Clarence Brown, director.
- CHARLES ROSHER, "Pagan Love Song," (Technicolor—shooting in Hawaii) with Esther Williams and Howard Keel. Robert Alton, director.
- JOSEPH RUTTENBERG, "Cause For Alarm," with Loretta Young, Barry Sullivan, Bradley Nora, Margelo Gilmore. Tay Garnett, director.

- PAUL VOGEL, "Watch the Birdie," with Red Skelton, Arlene Dahl, Ann Miller, Pamela Britton and Leon Ames. Jack Donohue, director.
- JOHN ALTON, "Grounds For Marriage," with Van Johnson, Kathryn Grayson, George Murphy, and Paul Raymond. Robert Z. Leonard, director.

Monogram

- MARCEL LEPICARD, "Triple Trouble," with Leo Garcey, Huntz Hall and Lyn Thomas. Jean Yarbrough, director.
- HARRY NEUMANN, "Badmen Of Arizona," with Whip Wilson, Andy Clyde, and Nancy Saunders. Wallace Fox, director.
- WILLIAM SICKNER, "Bomba And The Hidden City," with John Sheffield, Sue England and Damien O'Flynn. Ford Beebe, director.

Paramount

- CHARLES LANG, "Branded," with Alan Ladd, Mona Freeman, and Charles Bickford. Rudy Mate, director.
- VICTOR MILNER, "Dark City," (Hal Wallis Prod.) with Wendell Corey, Elizabeth Scott, Viveca Lindfors, and Don DeFore. William Dieterle, director.
- DANIEL FAPP, "Beyond The Sunset," with Glenn Ford, Edmond O'Brien and Rhonda Fleming. Leslie Fenton, director.
- GEORGE BARNES, "Mr. And Miss Anonymous," with Joan Fontaine, Ray Milland, and Teresa Wright. George Stevens, director.
- CHARLES LANG, "A Relative Stranger," with Gene Tierney, John Lund, and Miriam Hopkins. Mitchel Leisen, director.

R.K.O.

- HARRY WILD, "His Kind Of Woman," with Robert Mitchum, Jane Russell, and Vincent Price. John Farrow, director.
- NICHOLAS MUSURACA, "Seven Witnesses," with Gig Young, Mary Anderson, John Kellogg. George Archinbaud, director.
- J. ROY HUNT, "Rio Grande Patrol," with Tim Holt, Richard Martin, Jane Nigh. Lesley Selander, director.

20th Century-Fox

- CHARLES G. CLARKE, "I'll Get By," (Technicolor) with June Haver, William Lundigan, Harry James, Gloria de Haven and Dennis Day. Richard Sale, director.
- HARRY JACKSON, "American Guerillas In The Philippines," (Technicolor—shooting in the Philippines) with Tyrone Power, Micheline Prele, Tom Ewell, Jack Elam and Tommy Cook. Fritz Lang, director.
- MILTON KRASNER, "All About Eve," with Bette Davis, Anne Baxter, Celeste Holm and George Sanders. Joseph Mankiewicz, director.
- JOSEPH LASHELLE, "Old 880," with Dorothy Maguire, Burt Lancaster, Edmund Gwenn and Millard Mitchell. Edmund Goulding, director.
- LEON SHAMROY, "Trumpet To The Morn," with Linda Darnell, Cornel Wilde, Joseph

Cotten and Jeff Chandler. Robert Wise, director.

• WINTON HOCH, "The Halls Of Montezuma," (Technicolor—shooting in Mexico) with Richard Widmark, Reginald Gardiner, Skip Homeier. Lewis Milestone, director.

• LUCIEN BALLARD, "I'd Climb The Highest Mountain," (Technicolor) with Susan Hayward, Wm. Lundigan, Rory Calhoun, Lynn Bari, Ruth Donnelly. Henry King, director.

United Artists

- FRANK PLANER, "The Dungeon," with John Ireland, Mercedes McCambridge, James Barton. E. A. Dupont, director.
- ARTHUR MILLER, "Cost Of Living," (S. Spiegel Prod.) with Van Heflin. Joe Losey, director.
- WILLIAM SNYDER and JACK GREENHALGH, "New Mexico," (In Color) (Allen-Justman Prod.) with Lew Ayres, Marilyn Maxwell, Jeff Corey, Donald Buka. Irving Reis, director.
- GUY ROE, "Sound Of Fury," (Robt. Stillman Prod.) with Frank Lovejoy, Kathleen Ryan, Richard Carlson, Lloyd Bridges and Adele Jergens. Cyril Endfield, director.

Universal-International

- RUSSELL METTY, "Desert Hawk," (Technicolor) with Yvonne DeCarlo, Richard Greene, Lois Andrews and Lucille Barkley. Frederick de Cordova, director.
- CLIFF STINE, "The Milkman," with Donald O'Connor, Jimmy Durante, Piper Laurie and Joyce Holden. Charles Barton, director.
- IRVING GLASSBERG, "Shakedown," with Howard Duff, Peggy Dow, Brian Donlevy, Bruce Bennett. Joseph Pevney, director.
- WILLIAM DANIELS, "Harvey," with James Stewart, Josephine Hull, Peggy Dow, Charles Drake. Keny Koster, director.
- MAURY GERTSMAN, "Frenchie," with Joel McCrea, Shelly Winters, Paul Kelly, and Elsa Lanchester. Louis King, director.
- GEORGE ROBINSON, "Abbott And Costello In The Foreign Legion," with Abbott and Costello, Patricia Medina, Walter Slezak and Douglas Dumbrille. Charles Lamont, director.
- HAL MOHR, "Woman On The Run," (Fidelity Prod.) with Ann Sheridan, Dennis O'Keefe, Robert Keith, and Frank Jenks. Norman Foster, director.
- RUSSELL METTY, "Wyoming Mail," (Technicolor) with Stephen McNally, Alexis Smith and Charles Kemper. Reginald LeBorg, director.
- HENRY FREULICH, "Under The Gun," with Richard Conte, Audrey Totter, and John McIntyre. Ted Tetzlaff, director.
- IRVING GLASSBERG, "Kansas Raiders," (Technicolor) with Audie Murphy, Brian Donlevy, Marguerite Chapman, and Scott Brady. Ray Enright, director.

Warner Brothers

- WILFRID CLINE, "Tea For Two," (Technicolor) with Doris Day, Gordon MacRae, Eve Arden, and S. Z. Sakall. David Butler, director.
- TED MCCORD, "The Breaking Point," with John Garfield and Patricia Neal. Michael Curtiz, director.
- PEVERELL MARLEY, "Kiss Tomorrow Goodbye," (Cagney Prod.) with James Cagney, Luther Adler, Steve Brody, Barbara Payton, and Helena Carter. Gordon Douglas, director.
- ERNEST HALLER, "Dallas," (Technicolor) with Gary Cooper, Ruth Roman, Steve Cochran and Raymond Massey. Stuart Heisler, director.

BOOKS YOU'LL WANT TO READ

Quarterly Review of Late Photographic Books

Handbook Of Basic Motion Picture Techniques

By Emil Brodbeck. McGraw-Hill Book Co., N. Y. \$5.95.

During the war, Emil Brodbeck was instructor for the Signal Corps Photographic Center Motion Picture School. He did considerable combat photography in Burma and a good deal of his combat footage appeared in *Objective Burma*, starring Errol Flynn.

After the war, Brodbeck founded Celluloid College, a school for cinematographers; also produced a number of instructional films on how to make movies. These films are available as an adjunct to this book. If you have a camera, film, an exposure meter and a copy of this book, you possess all the materials necessary to make successful movies. No matter how expert you become, the basis for all your movie making operations is to be found in *Handbook of Basic Motion Picture Techniques*.

16mm. Sound Motion Pictures

William H. Offenhauser, Jr., *Inter-science Publishers, Inc., New York.* \$10.00.

An authoritative, specialized and readable technical guide through all the phases and aspects of the 16mm. film field and its applications. Written by Wm. H. Offenhauser, Jr., who has had more than 20 years' experience as a physicist and engineer in the 16mm. industry. During the war he was consultant to the Signal Corps. He formerly built and installed the first sound film recording equipment used by the Army.

His new book, 6 by 9 inches in size, contains 592 pages, 123 illustrations and 30 tables. Sixteen chapters take the reader through the entire gamut of 16mm. film making operations and concludes with an informative chapter on 16mm. films for television.

High Speed Photography

Society of Motion Picture Engineers, New York City. \$1.50.

This 129 page illustrated booklet consists of papers presented at the symposium on high-speed photography during the October, 1948 convention of the Society. It describes various high-speed cameras as well as techniques used by government and industrial agencies.

Specific topics discussed in the booklet include electrical flash photography and a new high-speed stroboscope; lamps for high-speed photography; motion picture equipment for very high-speed photography; methods of analyzing high-speed photographs and the uses of high-speed photography in the armed forces, automotive and other industries and research.

American Cinematographer Handbook and Reference Guide

Compiled and published by Jackson J. Rose, 1782 N. Orange Dr., Hollywood. \$5.00.

This convenient pocket guide, which has served cinematographers, both amateur and professional for years, has been expanded to 325 pages and now contains, in addition to charts and data on technical phases of cine cameras, projectors and films, data on such new techniques as magnetic recording, translucent backgrounds, films for television, etc.

SCENES FILMED BY GASLIGHT

(Continued from Page 217)

what lens stop we used, but the results were perfect. Latensification of the film was not required. Nor did we use any special film — just Plus-X.

Our biggest problem was the zeal of the boatmen. As filming progressed, there were the usual retakes with attendant instructions to the various persons involved. Soon every boatman was shouting instructions, first to one another then to Joseph Cotten and Miss Fontaine, and finally to the director and crew. For a few minutes the bedlam of shouting, whistling, etc., was terrific! We simply sat down, plugged our ears, and waited for the Italians to simmer down; finally concluded shooting without further incident.

Sometimes improvisations like this wind up on the cutting-room floor. I am happy to know that these scenes are in the picture as released, and because this is probably the first time that the Blue Grotto has ever been recorded in motion pictures, it is something to look for when "September Affair" comes to your theatre screen.

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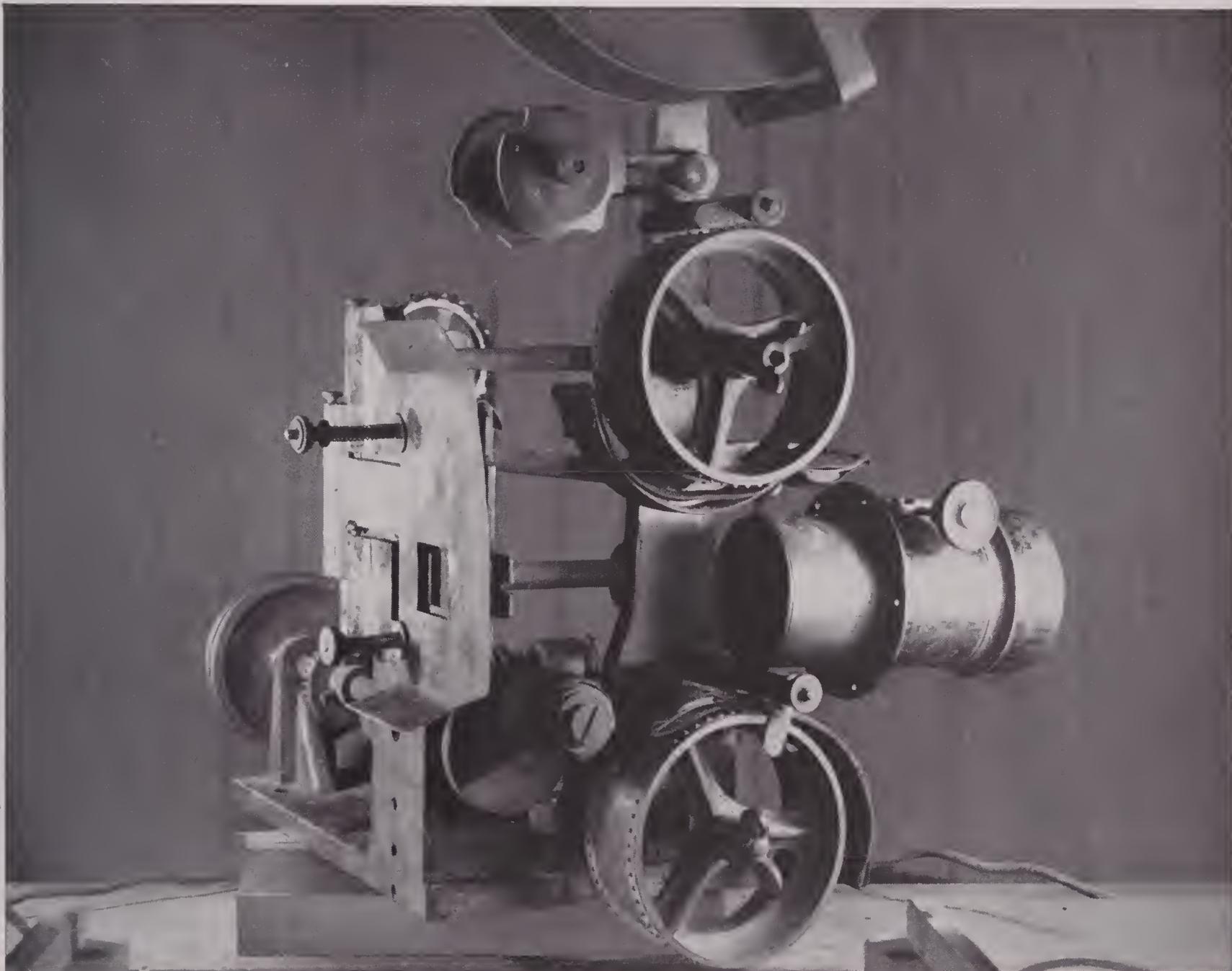
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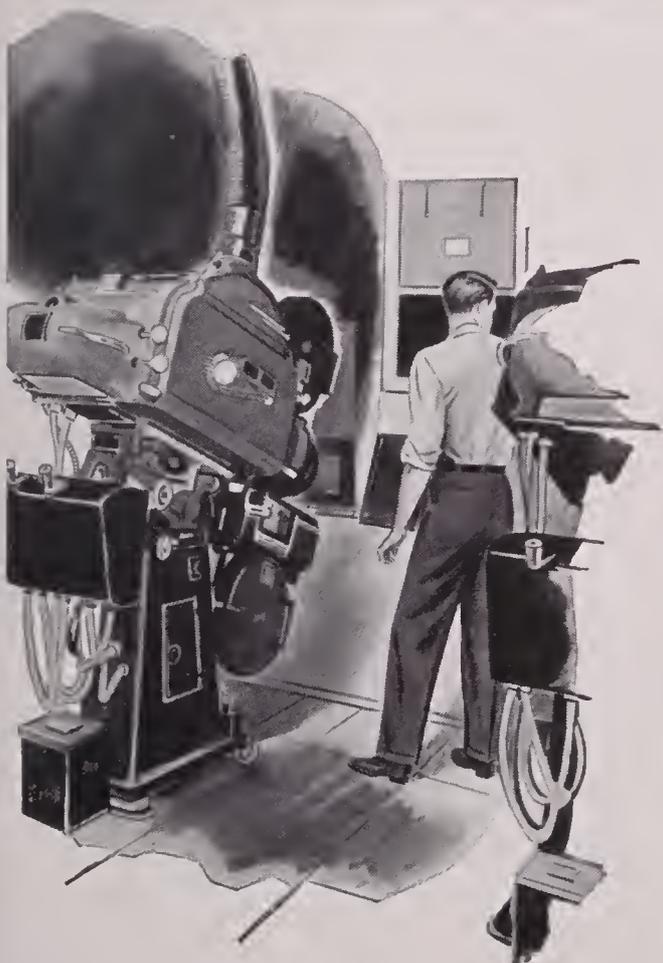
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**JULY
1950**

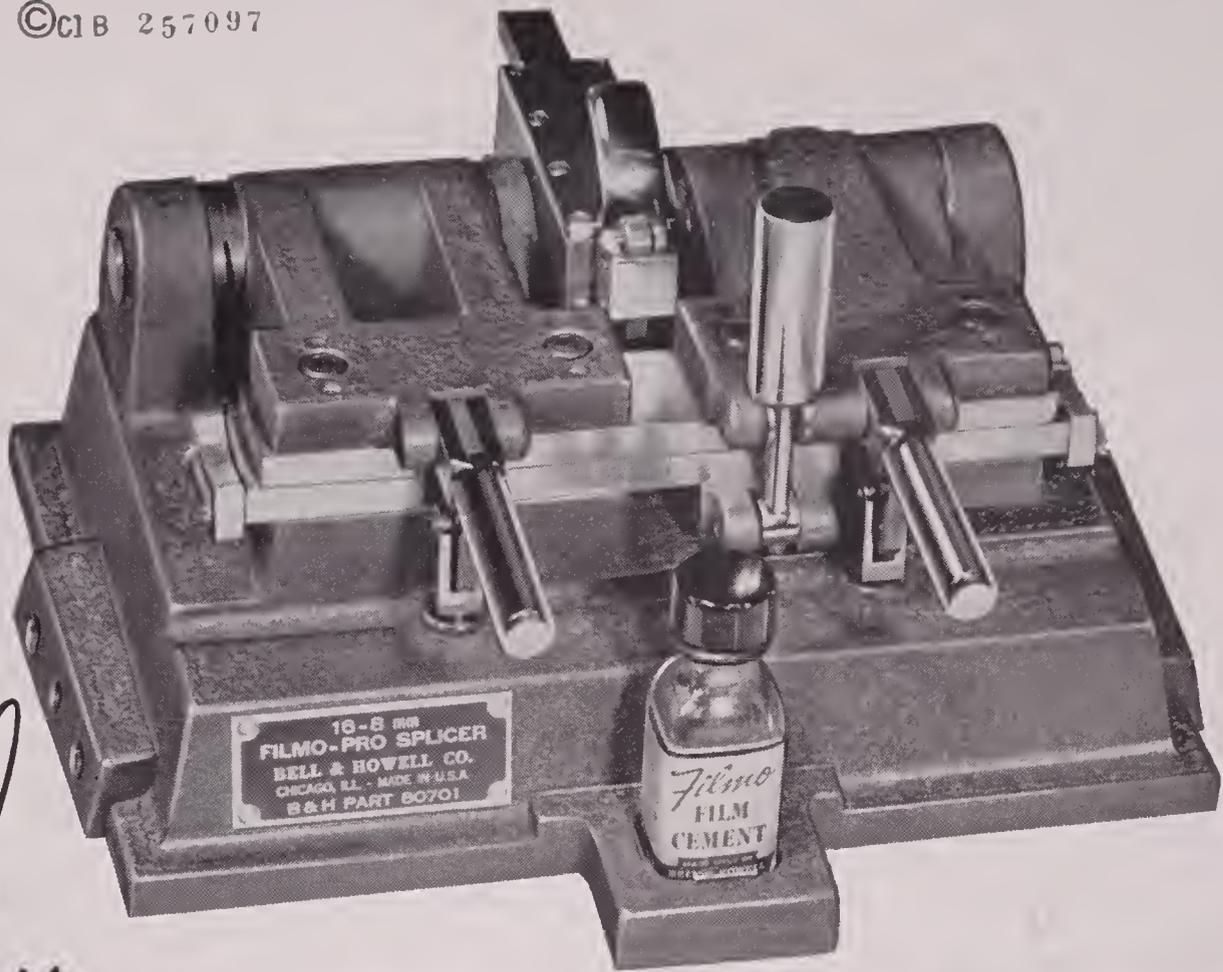


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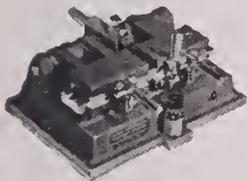




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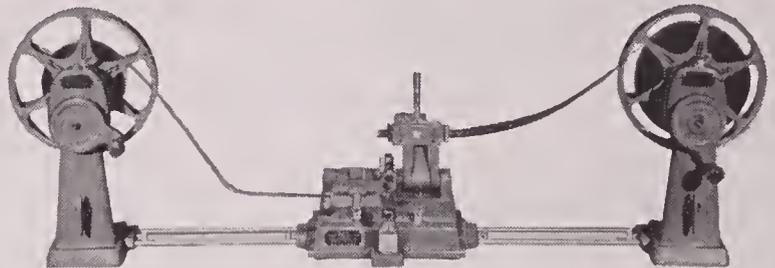
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VOL. 31

JULY • 1950

NO. 7

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ON THE COVER

RAY FERNSTROM, A.S.C. (far right) goes into huddle with Jack Voglin and director Gunther V. Fritsch on story-board layout for series of television films produced by United Productions of America for the Ford Motor Company and photographed by Fernstrom on one of Hollywood's largest sound stages. Taking light meter reading is gaffer Robert Campbell while grip Bob Welch shifts camera boom into position for a closeup of the "star"—a shiny new 1950 Ford sedan. Riding boom are (L to R) Jack Whitman, assistant cameraman, and operator Les Shorr.

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 1950 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.



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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Hollywood Bulletin Board



MILTON KRASNER, A.S.C., winner of Picture Of The Month award for April for photography of Fox's "Three Came Home."

MILTON KRASNER, A.S.C., was voted winner of the ASC's "Picture Of The Month" award for May and presented with a commemorative plaque at the Society's monthly dinner-meeting, June 5th. Presentation of plaques also was made to Charles Rosher, A.S.C., winner of award in January for "Red Danube," and absent when original presentation was scheduled; and to Leo Tover, A.S.C., winner of the joint award for March for the photography of "When Willie Comes Marching Home." Ted McCord, A.S.C., who shared the dual March award with Tover for his photography of "Young Man With A Horn," was unable to be present at the awards presentation.

CHARLES G. CLARKE, A.S.C., it was announced just as we went to press, has been nominated for the ASC's "Picture Of The Month" award for May for his photography of "The Big Lift," produced by 20th Century Fox. Clarke, who is presently in France, is expected back in Hollywood in time to receive the award which will be presented at the Society's next monthly meeting, July 17th.

JOSEPH WALKER, A.S.C., is in Washington, D.C., photographing "Born Yesterday" for Columbia Pictures. Assignment marks change of pace for Walker whose previous pictures have been shot mostly

indoors on Columbia sound stages. Present picture is being filmed almost entirely on location, utilizing no studio sets but shooting necessary interiors in Washington locales with the aid of the most advanced remote lighting techniques.

KARL STRUSS, A.S.C., has been engaged by Charles Laughton to light stage settings for his initial footlight presentation "The Cherry Orchard," at the new Stage Theatre in Los Angeles. Laughton, impressed with Struss' skill in lighting motion picture sets, singled him out to apply advanced studio lighting techniques to his new stage production. Struss, incidentally, receives program credit for this assignment.

OLLE COMSTEDT, A.S.C., sailed for Bermuda last month where he is to photograph a documentary in color.

THINGS are looking brighter for Hollywood's film animators. The industry reports that more than 22% of the animators formerly engaged in animated cartoon production are now employed turning out animated advertising films for television.

MICHAEL DOYLE, 21 years a cameraman in Hollywood, has been appointed Associate Professor at University of California, Department of Cinema Arts.

TOM TUTWILER, A.S.C., has returned to Hollywood following a twelve-week stint photographing exteriors in Texas for RKO's "Jet Pilot."

MGM'S directors of photography have seen more off-the-lot activity during the past two months than for many years. Back at home base are George Folsey, A.S.C., who just completed location filming on "Vengeance Valley" at Cañon City, Colorado; Joseph Ruttenberg, A.S.C., having wound up production and background shooting for "Magnificent Yankee" in Washington, D.C.; Charles Rosher, A.S.C., back from Hawaii and continuing to shoot "Pagan Love Song" on Metro's sound stages; and William Mellor, A.S.C., who was on location filming scenes for "Across The Wide Missouri." Hal Rossen, A.S.C., who returned the middle of June from Indianapolis

where he filmed "To Please A Lady," planned out for Kentucky following week to scout locations for MGM's forthcoming "Red Badge of Courage." Alfred Gilks, A.S.C., is shooting exteriors at Sonora, California, for "Shep Of The Painted Hills." Bob Surtees, A.S.C., and William Skall, A.S.C., are already grinding out Technicolor footage in Italy for MGM's "Quo Vadis," and the studio is highly enthusiastic over the results shown in first dailies.

THREE OLD-TIME Columbia "regulars" were back on the Gower Street studio roster last month: William Snyder, A.S.C., scheduled to start filming "Flying Fish"; Phil Tannura, A.S.C., directing the photography on "Counterspy Meets Scotland Yard"; and Joseph Walker, A.S.C., who's photographing Columbia's top-budget production, "Born Yesterday."

VICTOR MILNER, A.S.C., representing the Academy of Motion Picture Arts and Sciences, addressed the National Retail Dry Goods Association mid-year conference held at the Biltmore Hotel in Los Angeles last month.

Five members of the Academy spoke on "Motion Picture Techniques Applicable to Visual Merchandising." In addition to Milner, who outlined the work of the cinematographer and pointed out how motion picture lighting techniques could be applied advantageously in lighting store and window displays, other speakers included Paul Groesse, art director; Henry Grace, set decorator; Edith Head, costume design; and Howard G. Mayer, public relations. More than 1800 store representatives from around the nation attended the conference.

PAUL C. VOGEL, A.S.C., and FRANK F. PLANER, A.S.C., have been cited by DuPont in the June-July, 1950, issue of "DuPont Magazine" for their award-winning achievements during 1949 with DuPont motion picture film. Full page story and layout pictured both cinematographers plus clips from their award-winning films. Vogel won "Oscar" this year for photography of MGM's "Battleground." Planer won Globe Award of Hollywood Foreign Correspondents for filming "Champion."

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- Step printing for highest picture quality.
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CRITICAL AUDIENCE, among them some of the movie industry's top directors of photography, watch screening of movies of themselves, photographed earlier same evening at the A.S.C. clubhouse in Hollywood. Berndt-Bach, Inc., staged event to demonstrate Cine-Voice camera.

Cine-Voice Demonstrated For A.S.C.

THE MEN BEHIND the cameras were shown how they looked *before* the camera at the June meeting of the American Society of Cinematographers. As a combination equipment demonstration and program innovation, Berndt-Bach, Inc., makers of Auricon cameras and sound equipment, sent technicians and cameramen to the A.S.C. clubhouse with two of the new Auricon Cine-Voice 16mm. single system sound cameras and made movies in sound of the cinematographers.

Camera setups ranged from simple shots picturing groups of A.S.C. men examining Auricon equipment, to scenes of the presentation of Picture of the Month plaques to Charles Rosher, Leo Tover and Milton Krasner by A.S.C. veepee Arthur Edeson, subing for presi-

dent Ray Rennahan who was absent.

Films were then rushed to the local Cine Craft laboratories for quick processing and returned before close of meeting and screened. The demonstration aptly displayed the potentials of the new, popular priced Cine-Voice sound camera, introduced earlier this year as a new tool for advanced movie amateurs, television newsreel and film producers, and industrial firms wishing to make their own instructional and promotional films in sound.

The camera, engineered with the same precision and finish that go into its big brothers, the Auricon-Pro and the Auricon 1200 cameras, takes 100 foot rolls of daylight-loading film. Although the standard model is a single-lens job, a

(Continued on Page 248)



CAMERAMAN Charles Short shoots A.S.C. members with one Cine-Voice camera while they examine features of another and discuss its merits.



SHORT and sound-man Al Brown get set to shoot presentation of "Picture Of The Month" Awards to Charles Rosher, Leo Tover and Milton Krasner.

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FRICITION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazine 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 5 1/2 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.

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

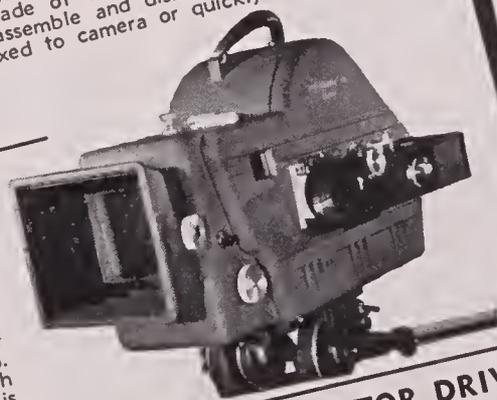
SUNSHADE & FILTER HOLDER COMBINATION

For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. glass filters and 2 1/2" 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.



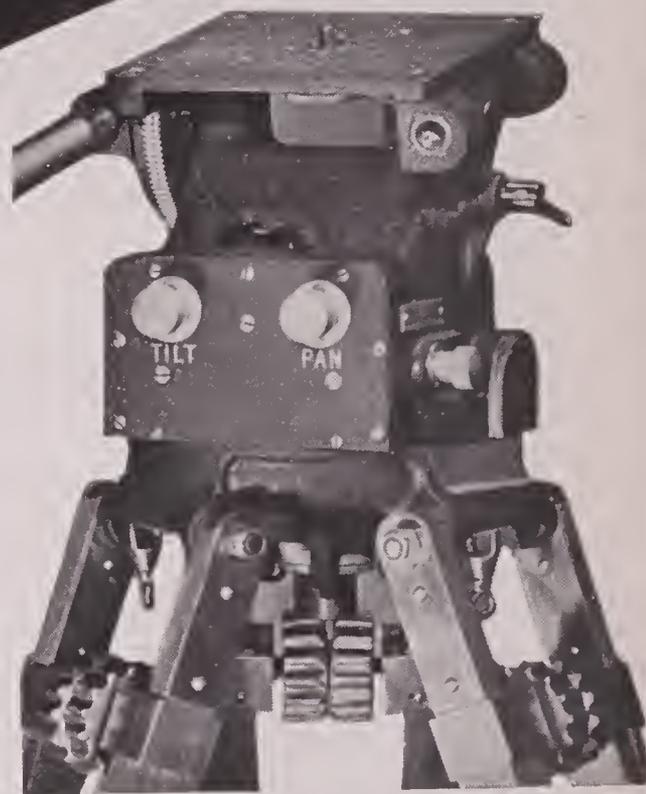
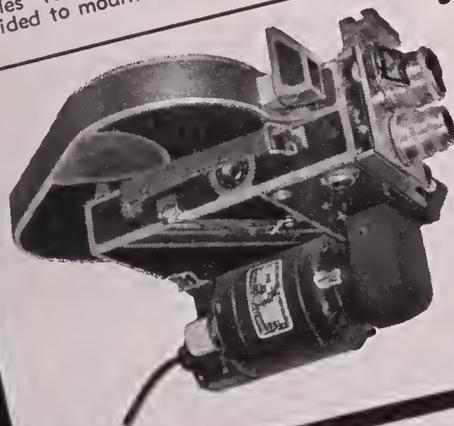
BLIMP for EK 16mm. CINE SPECIAL

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 spring-steel drive arm of camera and is mated to spring steel drive 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 1/4" and 3/8" 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 3/8 or 1/4 inch camera screw.

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FRANK PLANER, A.S.C., explains to producer Stanley Kramer how use of Garutso lens cuts production costs by eliminating need for many intermediate shots. Extreme depth of focus of lens makes possible picking up detail at distances, making setups for closeups unnecessary. Planer is using lenses in filming Kramer's "Cyrano de Bergerac."

Deep Focus And Longer Takes

Increased pictorial plasticity achieved with the new Garutso lenses, says Frank Planer who has used them exclusively in photographing three major productions.

By LEIGH ALLEN

WHEN THE GARUTSO lens was introduced to the motion picture industry a year ago by Dr. E. Goulden, it was recognized as a promising new lens with new pictorial and economic possibilities. It demonstrated in tests remarkable ability to produce exceptional sharp images with greater depth of focus than heretofore obtainable with many conventional lenses, also that it made possible shorter shooting schedules by eliminating need for many intermediate camera setups. Later it was "re-discovered," you might say, by an imaginative and enthusiastic director of photography who explored still further the lens' possibilities. He ultimately proved its full potentialities by photographing with a Garutso lens every scene of a major Hollywood production.

Described at length by R. M. Newbold in the September, 1949, issue of *American Cinematographer*, the Garutso actually is not a new lens line but a conventional camera lens modified according to the patented Garutso principle. This consists of adding one or more

annular elements to the lens structure which increases depth of focus and enhances definition and contrast through the resultant reduction of spherical aberration. Lenses thus modified, regardless of make, are termed "Garutso lenses."

Last year several Hollywood directors of photography tested a series of Garutsos ranging in focal length from 25mm. to 150mm., and the resultant shots were spliced together to form a demonstration reel, later screened before members of the American Society of Cinematographers and other technical groups in the motion picture industry.

In the meantime, the Garutsos were attracting attention in other branches of the industry. Screen director Irving Ries, following a showing of the test reel, employed the lenses in producing a series of films for television. And when later he was engaged to direct "Three Husbands" for Gloria Films, one of his first requests was permission to use Garutso lenses in filming the entire picture. He put the problem to Frank Planer, A.S.C., who until then had never seen the lenses

(and had not been present at the test reel screening for his associates at the A.S.C.).

Planer subsequently saw the reel and was at once impressed. With no time to make pre-production tests, he plunged into shooting "Three Husbands" and completed the photography in record time, using a Garutso lens for every shot, with consequent reduction in the number of camera setups necessary.

"'Three Husbands' was my basic training," Planer said after winding up the picture, and added: "I expect to do even better with this lens on my next picture."

By now, Planer's success with the lens was attracting attention throughout the industry and he was immediately signed to do two more pictures: "The Dungeon," for I. G. Goldsmith, and "Cyrano de Bergerac" for Stanley Kramer, using Garutso lenses exclusively.

Frank Planer is the first director of photography to work extensively with the lenses and to explore their fullest potentialities for major film production. Those who previously had worked with them had been limited both in time and opportunity and therefore did not uncover their full potentials.

"Perhaps the real secret to successful use of the Garutso lens lies in the lighting," said Planer. "One must avoid flat lighting and avoid diffusion. Use of

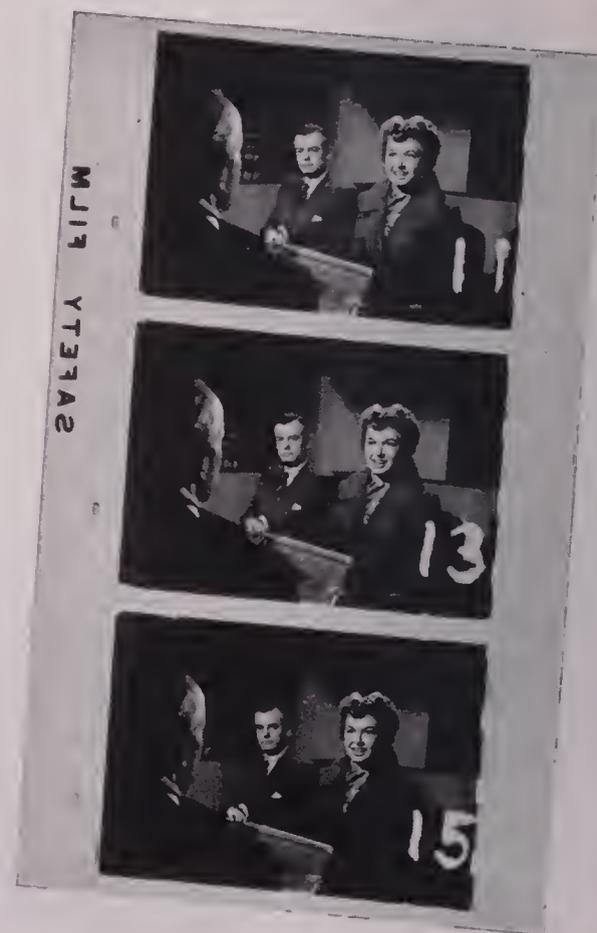


FIG. 1 — Example of great depth achieved with Garutso lens in group shot. Man in FG is three feet from camera, woman 6 feet, and man at rear, 13 feet. Filmed at f/3.2 with a 35mm. Garutso, type on letter is clearly discernible on screen.

35mm. Color Release Prints From 16mm. Color Originals

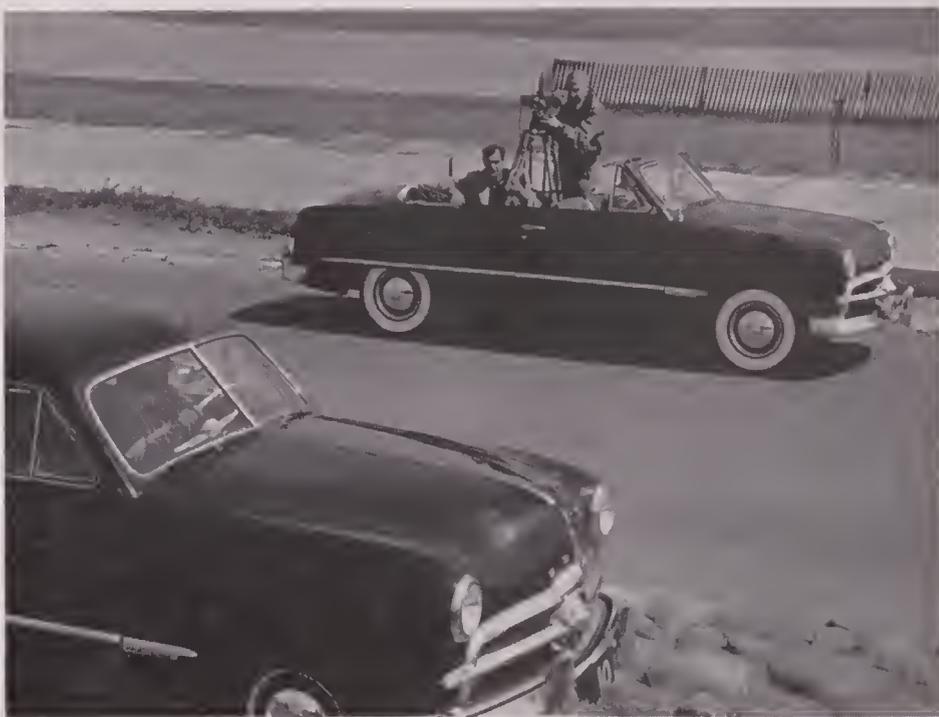
Improved techniques broaden opportunity for
theatre release of films made in 16mm. color.

RECENT VENTURES in filming motion pictures in 16mm. color, then blowing them up to 35mm. color for theatrical release have proven sufficiently successful to warrant increased activity in this field. Perhaps the earliest ventures of this kind began during the war when 16mm. Kodachrome shots of battle action in the Pacific and in Alaska were blown up to 35mm. Technicolor for showing in the nation's theatres. About the same time some of the major studios began to acquire 16mm. Kodachrome footage of interesting subject matter from independent cine photographers, which they enlarged to 35mm. color and released as short subjects. The Technicolor sequences in Warner Brothers' "Task Force" were largely made up of 16mm. Kodachrome footage filmed during actual battles in the Pacific. Of the short subjects released during the last two years by three major studios, many originated in 16mm. Kodachrome.

The technique for photographing 16mm. color films for subsequent enlargement to 35mm. color and for the production of such 35mm. release prints continues to advance. Already much of the technical information has been recorded in a popular text book for cinematographers. Jackson J. Rose, A.S.C., has devoted a chapter to the subject in the new, revised edition of his *American Cinematographer Hand Book and Reference Guide*, as follows:

"During the last two years many producers have made feature-length films as well as short subjects on Eastman Kodak's 16mm. Commercial Kodachrome for release in theatres on 35mm. Ansco Color. The simplicity of this direct blowup color print procedure, as developed by Filmeffects of Hollywood, combined with the economy of shooting three-color productions on a low-cost 16mm. original, makes this method

(Continued on Page 248)



IT IS JUST as important to use seasoned technicians in 16mm. color film production as in any other color photography. Here veteran cinematographer and A.S.C. member Gil Warrenton is seen filming a scene in color for "The Human Bridge," produced by Raphael G. Wolff for the Ford Motor Company, and photographed entirely in 16mm. Commercial Kodachrome.

FIG. 2 — Another example of great depth of focus achieved with a 35mm. Garutso. Man in foreground is 9 feet from camera, man in distance, about 45 feet. Reproductions are from light test strips.

gauze diffusers nullifies much of the lens' potentials."

"The Garutso lens," Planer continued, "gives additional depth of focus without any hint of exaggeration, and without need for increased illumination. I work with the same key light at all times. When I do use additional light, even if only a slight amount, I am able to work at apertures $f/2.8$ to $f/3.5$, using the same key — and sometimes at $f/4$ with a 40mm. lens.

"Another important factor is that by gaining this additional depth of focus without need for additional light, the opportunity is widened for greatly increased photographic results in shooting scenes that include process or stereo backgrounds. The increased depth of focus inherently present makes it possible to obtain greater separation between the players and backgrounds — in other words, the players can be moved forward, away from the backgrounds, thus making it possible to light them to greater advantage and still have the background in focus.

"I think flat lighting results in bad pictures regardless of the lens used, but it is also undesirable with a Garutso. When striving to get separation and modulation in faces and in set architecture, flat lighting defeats the effort.

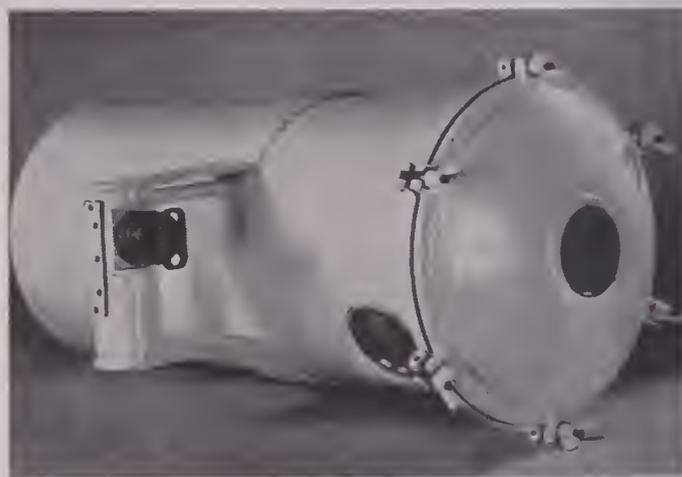
There are still other advantages — advantages for the director and for the members of the cast, according to Planer.

(Continued on Page 257)



FIG. 1 — Diver-cameraman shooting movies under water, using specially-built electrically driven 16mm. camera in submarine housing. Using compressed air supply, experienced diver can remain at depth of 60 feet for half an hour. Camera has no exterior controls for lens.

FIG. 2 — View of camera housing pictured in use in photo at left. Of small bulk and weight, is made of thin steel, "parkerized" and white enameled. Spun metal dome at front is secured by six hinged bolts and wing nuts.



Underwater Photography

Data on exposure, lighting, use of filters and camera handling for underwater cinematography, result of British scientific research.

By J. B. COLLINS, B. Sc., M.B.K.S.

Reprinted from *The Photographic Journal*, Vol. 90B, 1950, Courtesy Royal Photographic Society.

REQUIREMENTS for underwater photography arise in several widely different branches of marine activity, and range from high speed cinematography for projectile study to still pictures for wreck survey and instruction. Preliminary research into the published works of other investigators showed that photography in anything but very clear water had been dismissed as impossible, and hence all previous work had been restricted to tanks (for the film industry) or to clear water regions, such as the coast of Florida and the Mediterranean. Most of the work done at sea had been in daylight using the bright summer sunlight of these regions, and had been carried out with fixed cameras operated by a helmet diver or from craft with glass ports below the water line.

Photography under water is comparable to photography through a smoke-fog. Several workers have published data on the transmission of light through various types of sea-water. One such study revealed that oceanic water approached distilled water in clarity and spectral transmission, transmitting most light in the blue and green regions of the

spectrum (4,500 to 5,500 Angstrom units); but as the coastal regions are approached, the water transmission drops particularly in the blue region (below 5,000 A-U's), and wave-lengths mostly transmitted lie in the yellow and green regions.

The significance of such spectral transmission data is most appreciated when considering the use of artificial illumination under water. Among other things, it was found that a much greater proportion of the total light energy output from mercury-discharge lamps will be transmitted by sea-water than when tungsten lamp illumination is used. From charts made as result of these tests, it was noted that the transmission curves drop steeply outside the violet and red ends of the spectrum (4,000 to 7,000 A-U's) indicating that photographic systems employing infra-red or ultra-violet radiations are likely to be of little value.

The photographic work reported here was carried out off Malta, and relates to the range of water transmissions above 50 per cent per half meter. The Malta tests were conducted in 1948 to obtain more precise information on the effect

of the various physical factors involved, and to study the effect of seven of these variables under daylight conditions. The seven variables, in order of importance, were: water clarity, tone of object, angle of sunlight, depth, exposure, film emulsion, and use of polarizing filters.

The trials were carried out using a gray-scale target, shown in Fig. 3, painted

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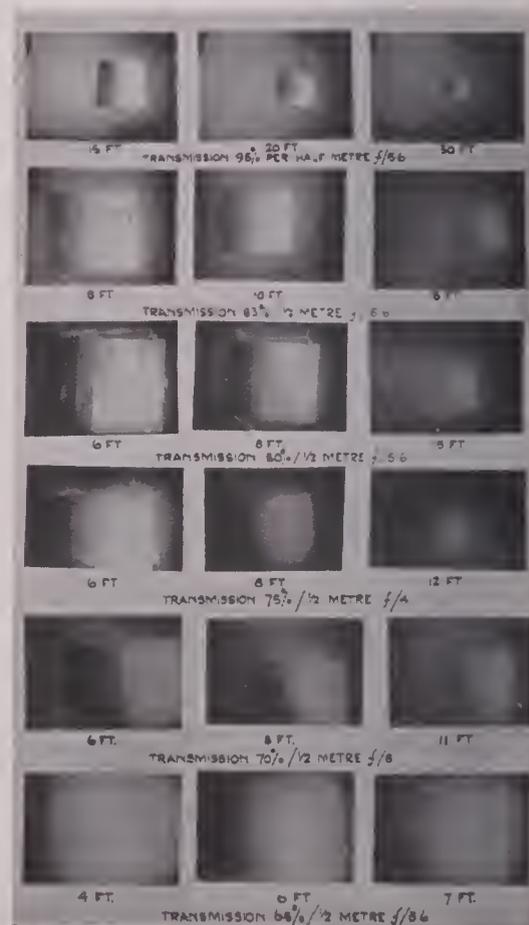


FIG. 3 — Gray scale target under conditions of varying water clarity and range. Photographed at depth of 6 feet, with light from overhead. British H.P.3 film used.

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FIG. 1—Typical multiple-camera setup for shooting television films in the Jerry Fairbanks' studio in Hollywood. Cameras film continuous action from three or more different angles, supplying variety of shots for intercutting without need for new camera setups for medium and closeup shots. Method speeds production and nets better performances by players.

FIG. 2—Complete mobile camera unit used in multiple-camera photography. Darts A, B, and C show special features: dimmer and switch box, eye light, and focusing knob respectively.



Multiple-camera Technique For Making TV Films

System permits productions to be photographed in continuous action.

By JERRY FAIRBANKS

Executive Producer, Jerry Fairbanks, Inc.

DEVELOPMENT of a revolutionary new technique of motion picture filming has at last solved the "kinescope" problem which has plagued viewers and sponsors alike since the first "kines" were introduced. The perfection of a multiple-camera technique now makes it possible for television film producers to compete from a budget standpoint with kinescope-recorded shows.

The new technique developed in our research laboratories utilizes three or more Mitchell 16mm. cameras which operate simultaneously, filming three or more different angles of a scene and getting long, medium and close-up shots at the same time. (See Fig. 1.) The procedure is similar to the use of multiple cameras in telecasting "live" video. Heretofore, separate camera set-ups have been used to obtain the same results.

The system, which combines the best advantages of both television and film shooting, permits a picture to be photographed in continuous action, including cuts from one camera to another, thus making it possible to film some half-hour programs in as little as 30 minutes.

During the shooting of tests we have found that the new technique promises to cut previous production schedules by

approximately 500 per cent. "Nocturne," a half-hour musical telecast weekly by KNBH in Hollywood, was completely filmed in a little more than three hours.

"Major studio" schedules for the same type of filming would be from 10 days to two weeks. Before the development of
(Continued on Page 244)

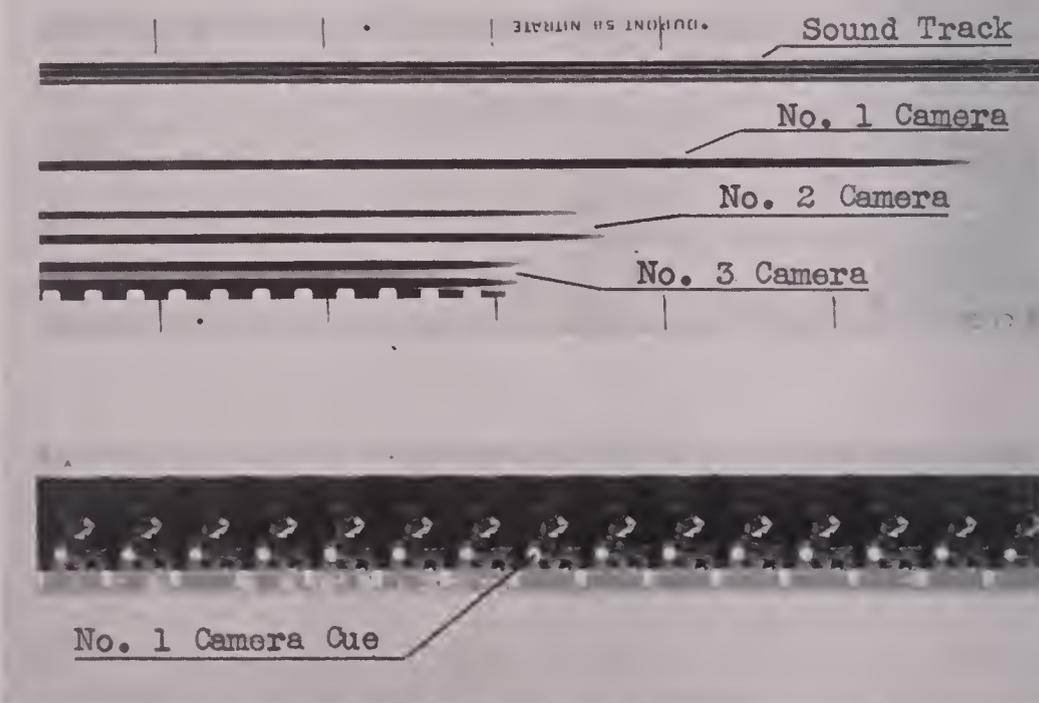


FIG. 3—Key to Fairbanks' system is method of placing sync marks on film and sound track as aid to editing. Film shot by No. 1 camera prints single white dot first few frames after camera rolls; No. 2 and 3 cameras print two and three dots respectively. On sound track, interval of camera operation is indicated by continuous lines, as shown.

GOOD AS NEW after over 27,000 miles through Darkest Africa!

That's the unsolicited testimonial for the KINEVOX RECORDER from Edgar Monsanto Queeny, recently returned from a motion picture and sound recording expedition in Africa.

EDGAR MONSANTO QUEENY
1700 SOUTH SECOND STREET
SAINT LOUIS

June 12, 1950

Mr. Len H. Roos
Vice President
Kinevox, Inc.
4000 Riverside Drive
Burbank, California

Dear Mr. Roos:

With reference to the performance of the Kinevox Recorder on our African trip, we are well satisfied with the results. We secured excellent sound.

It was bounced over about 7300 miles of rough country by safari, plus about 20,000 miles of air-freight travel. The only protection it had was a waterproof cover over the case. Except for a little African dust and mud, it is in as good condition now as when we first received it.

With best wishes, believe me

Sincerely yours



AGAIN, KINEVOX EQUIPMENT
DELIVERS EXCELLENT SOUND,
MAGNETICALLY RECORDED ON
THE INCOMPARABLE

KINEVOX MAGNETIC RECORDER

Patent Applied For



Jack Clink, sound engineer for Mr. Queeny, shown with Kinevox recorder used on safari in Africa.

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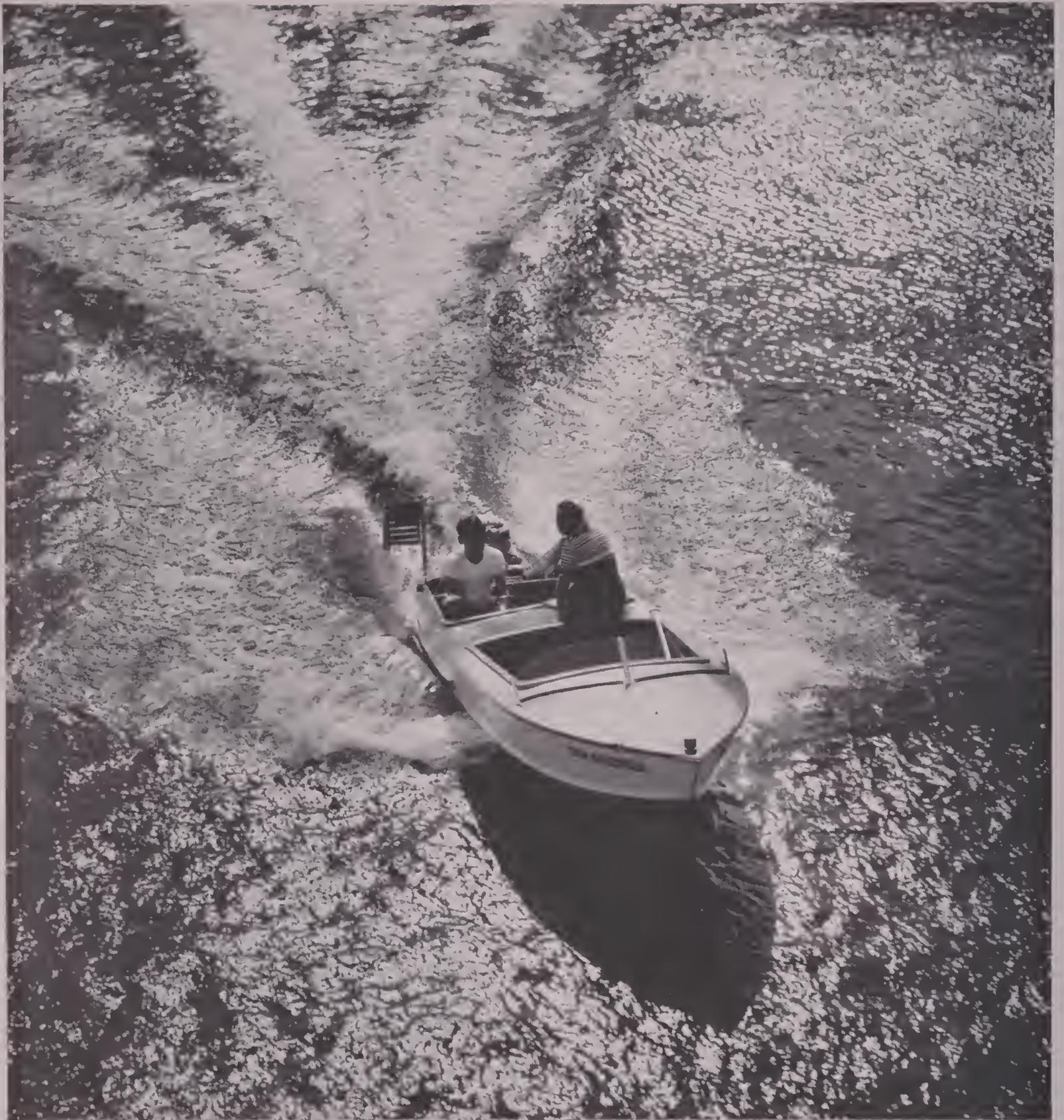
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AMONG the "must" shots for a wedding record film is the group shot of bride and bridesmaids—best photographed immediately before ceremony or at rehearsal.



INTIMATE candid shots like this are important to a movie record of a wedding. Because illumination is always a problem in shooting scenes in a church or at the reception, best results follow where a Powell-Lite is used attached to camera to furnish illumination.



MORE candid shots can be made at the reception. Remember to include in these scenes the most important guests and members of both families.



AND for a closing scene, a closeup of bride and groom safely inside their car as they prepare to drive away on their honeymoon.—Photos courtesy Leo and Beverly Hahn.

Filming A Wedding

Some professional angles on how to give wedding movies real "production value."

By CHARLES LORING

THE WEDDING FILM falls into a special category all its own. Far from being the usual "home movie" subject, the nuptial ceremony and attendant events are the most important in the lives of at least the two principals involved, and very significant occasions for their families. Any photographs or motion pictures made on that particular day become treasured mementos which will be viewed and re-viewed many times during the years that follow. For this reason the wedding film deserves careful pre-planning as well as the very best photographic treatment possible.

In every town there is at least one movie cameraman who specializes in making wedding films, and indeed this type of cinematography has become a very profitable sideline for cameramen who do the bulk of their work in other phases of movie-making. The cine cam-

erapist with any ability at all can usually do a good job of filming a wedding, provided he has the right equipment and creative imagination.

The planning phase should include some discussions with the bride's mother, or some other person directly concerned with arrangements for the wedding and reception. The bride and groom (if they can be corralled long enough) should be included in these discussions, so that they will know what is required of them in order to make the filming successful. A list should be made of everything that is to happen—all in proper sequence—and another list should be made of the guests who must, for one reason or another, be included in the scenes. Where the affair is to be a large one and the guests are unknown to the cameraman, it is advisable to have someone close to

(Continued on Page 250)

Tackling Your First Ambitious Film Production

Try a documentary subject for your first scenario film; it will provide important experience in coordinating story planning with photography.

By FREDERICK FOSTER

HERE COMES A TIME in the life of every amateur movie maker when he yearns to break away from the "snap-shooting" routine of making movies of the kids and the family, of vacation and week-end trips, and tackle something more serious in the way of a continuity film — a documentary or perhaps a modest photoplaylet.

Shooting your first motion picture from a prepared script can be a pleasurable and exciting experience. The venture is not fraught with difficulties if you have mastered your camera, know the rudiments of continuity, and have the imagination necessary to visualize your picture in advance and then see it through to completion.

Let us assume you are fairly proficient with your camera. The matter of continuity should not prove a bugaboo if you attend the movies fairly regularly and study the mechanics of the pictures you see there. You just can't help acquiring some idea of continuity technique, but

your ability to apply this knowledge to your own picture making will depend on how much thought you give your picture in advance.

Any picture produced from a script requires careful planning — planning of story line, the various camera angles and other photographic treatment, the lighting of interiors, and the titles, if it is to be silent — and then putting those plans down on paper in the form of a shooting script. Actually, you'll get a great big kick out of planning then shooting your first continuity film, for here you will be approaching for the first time the movie making procedure of the professionals. You will be taking another step forward in your experience of making movies that may lead — who knows — to an exciting adventure, perhaps a career.

Because capable acting talent is pretty difficult for the movie amateur to obtain for his films, your first ambitious production will probably fare better if it is

a documentary type of subject rather than a dramatic or comedy effort. Although some documentary films may require the use of actors, the number will be limited as compared to the requirements of a story film.

The shooting script for a documentary film need not be elaborate. In fact, it may be nothing more than a well organized scene list, but the organization of the material in proper sequence, with the scenes broken down into appropriate camera angles, etc., is most important if the best result is to be achieved.

"Live" with the subject a bit before attempting to set it down into sequences and scenes. Absorb the atmosphere of the place or the situation or the personality of the particular person to be portrayed, so that you may actually capture the proper mood. Contrary to some belief, a documentary need not be a coldly reportorial strip of celluloid; actually, the human touch is much to be desired. To further this effect, be sure to include in your scene list a generous share of reaction shots, because these are the shots that will draw the audience more closely to your subject and further their understanding of what you are attempting to depict with film.

Once the scene list or shooting script has been written, the next step is to line up the various elements of the picture. These include such players as may be necessary, costumes (if any), settings, locations, and properties. Although all this may sound like an ambitious project, it should not be so in making a documentary film, because the very nature of the film implies the recording of a realistic situation that already exists. This means that if the situation is worthy of portrayal in the first place, it is usually quite complete in its makeup and needs only minor additions for the camera.

The matter of actors is something else again. But usually, if people are photographed doing the thing that is their every-day occupation, they will execute it quite naturally and with a minimum of self-consciousness before the camera.

(Continued on Page 252)



SHOOTING your first motion picture from a prepared script can be a pleasurable and exciting experience, once you have mastered your camera and know the rudiments of continuity.



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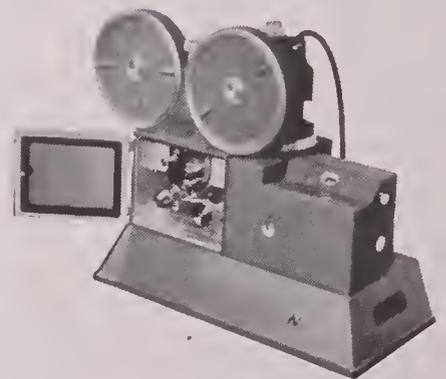
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MULTIPLE CAMERA TECHNIQUE

(Continued from Page 238)

our multiple-camera system, we would have planned on a minimum of three days to accomplish the same thing.

In perfecting the new system, we met and surmounted numerous technical problems during 26 months of research and experimentation. Among the foremost of these was the development of a marking device to "sync" picture and sound tracks.

This was necessary because the new system called for cameras to be turned on and off numerous times during the filming of long sustained scenes. The only other alternative was to let all cameras run continuously from the start, necessitating a tremendous waste of expensive negative film.

The problem was overcome by the invention of a device in each camera that leaves a "sync" mark on the action film when the camera is up to speed, identifying the camera. (See Fig. 3.) Also a similar device on the sound recorder exposes a line or lines on the sound film, indentifying the cameras in operation throughout the scene. In this manner, the sound film becomes the key to the cutting and inserting of all scenes shot by the different cameras. The marking and "sync" devices are entirely automatic and do not require cameramen to operate additional equipment.

Second of the major problems to be overcome in developing the new system was the perfection of cameras that could follow focus at all times and a viewfinder that would give cameramen the exact image in the exact focus that was being recorded on film. Equipment was especially built by the Mitchell camera company to our specifications. Finders were coupled with camera lenses so that an adjustment of the finder focus would correct for parallax and camera lens focus. In short, equipment was perfected so that if a scene is in focus on the finder it also is in focus on the film.

These developments were necessary to allow the cameramen to change focus as he moves the camera in and away from subjects or to properly film subjects moving in and away from the camera. As now perfected, the new technique allows the cameraman the same amount of freedom as the video cameraman—a freedom of movement that motion picture cameramen have never before enjoyed. (See Fig. 2.)

The 16mm. cameras are mounted on standard tripods which in turn are mounted on especially made three-wheel dollies that allow the cameraman to move the camera to easily follow the action in any direction. These new type

cameras can operate in any radius or directional line. This equipment does away with the heavy metal dolly tracks and trucking equipment that often necessitated the services of four or five men.

Eyelights have been mounted below the matt box on each camera blimp to be used or not as the operator desires. Each eyelight has a control mechanism to regulate the intensity of the light so that it will match the general set lighting. Each camera blimp also is equipped with an action light so that the cast and technicians will know exactly the cameras in operation and so that the director will know if the scene is being filmed according to plan. Camera cables, in many instances, are suspended overhead in sets to eliminate as many ground cables as possible.

A radical departure from previous movie methods, the new process required the development of a much faster and more efficient stage operations technique and production system. Heretofore, the method has been to set up a tentative time table of scenes to chart the course of production. This served more or less as a guide to the construction department and set decorators. Players seldom learned their lines more than a day in advance of shooting and usually only for the scenes to be filmed. Camera angles were determined on the spot and rehearsals held while the technical crew stood by. The director was the only one who had knowledge of the master plan. In many instances, he formed only a general plan in his mind, leaving the details until the night before shooting. Technicians and cast members learned about them the day of filming.

Under our new system every detail is completely planned in advance. Sets and decorations for the entire screenplay are constructed and dressed in advance. Cast, which has rehearsed on another stage, is prepared to run through the entire story just as they would for a stage play. All lighting is ready and each and every camera movement planned long in advance on paper. One rehearsal is held on the stage. Its purpose is to give the cameramen the practice of executing what has been planned for them. The entire scene is then filmed, with the three cameras getting the various angles and long, medium and close-up shots. The average scene under our new system runs many times longer than the average scene photographed under the old method. Rarely is the footage under five minutes and seven to eight minutes is the average. In some instances,

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when a minimum of sets and complicated action is called for, 30 minutes of finished film can be shot in 30 minutes.

Key to the entire stage operations technique is a set of "production scripts" prepared for every technician and player. These script layouts outline in detail every camera movement and cues for cutting in and out of scenes. Each camera is designated with a number and color to identify any particular camera and its position and field of coverage. Cameramen and technicians study their "scripts" in advance just as thoroughly as do the players. When individual cameramen receive layouts covering only their own schedule of operations, the director and cast are given a master "production script" that shows the plan for the three or more cameras. Relative markings in the story script also show the cameras that will be in operation at any particular time in the story continuity.

Lighting of sets always has been an important factor in production time. Average major studio time for standard lighting runs from 30 minutes to more than an hour per set up. Lighting under our new system averages less than five minutes and in many instances there is no loss of production time at all as every set is prelighted. The time-saving factor here added to the time gained by shooting only long, sustained scenes totals a huge saving in cost — a saving we can pass along to the sponsor.

The development of our new lighting technique also required many months of experimentation. The problem was to perfect a means of lighting a set so that no matter where the actors moved the light would be uniform. At the same time, it was necessary to devise a system that would practically eliminate cables from the stage floor. This was a "must" because our system requires the quick and easy movement of camera and sound boom equipment during shooting.

Our main lighting system, as it has been developed, consists of banks of 300-watt reflector lights. These banks are hung so that the tilt and swing adjustment can be made from the floor. This method makes for speed in giving an even, overall illumination of the set, and when properly used, without dark or hot spots.

Back and effect lighting is handled in standard studio procedure with incandescent spotlights mounted on parallels. Once these are adjusted, they remain the same throughout shooting of the particular set. Smaller banks of reflector lights are used on the floor for side lighting. Cables for lamps and all electrical equipment are suspended.

We also use the floor as an aid in our lighting. A very light colored floor cov-

ering suitable to dolly on is used to help eliminate chin, nose, and eye shadows. Where the floor is in the picture in long shots, rugs of course, are used. The combination of this flooring and bank lighting gives an overall modelling that is photographically pleasing. It eliminates the unflattering shadows that live television lighting seems to accentuate. It also does away with the accentuated makeup that is often used in live telecasting.

Sound recording, with the exception of the "sync" marking system, offered no major problems, fortunately. Multiple recorders are used in the filming of long shows, saving the expense and work of developing larger magazines. Regular studio sound equipment, with a few innovations of our own, is used. Additional microphones are spotted overhead out of camera range to obtain complete coverage of the entire set.

Cast rehearsals, without camera and lighting equipment, are held on a non-shooting stage with similar props and furniture available. This prevents the tying up of the main sound stages and the expensive equipment located there. Here the director works out all his "business" and the cast familiarizes itself with the dialogue and action. While rehearsals are thorough, they are not as demanding as those necessary for a live show which involves working under lights and with cameras.

Our new technique also was perfected for the filming of live programs *simultaneously* with the actual telecast of the show. Special 1200-foot magazines were developed for our cameras, and Eastman Kodak company prepares special 1200-foot negative film rolls to our specifications for this type of work. Ours is the only motion picture company to date to order film of such length. An intercommunications system has been built so that cameramen can receive instructions in much the same manner as a live video cameraman. This system also is available to us during filming on our stages; tests, however, have proved that the "production script" method accomplishes excellent results and that earphones are unnecessary during stage shooting.

Quality in all our tests is as good as in any motion picture. Test prints have proved that the system provides far superior lighting, sound and clarity of picture than the best kinescopes made to date. We have proved this beyond a question of a doubt several times by alternating in a sample reel footage from one of our tests and footage from a kinescope of the same show. The difference is startling, especially when seen on a closed circuit.

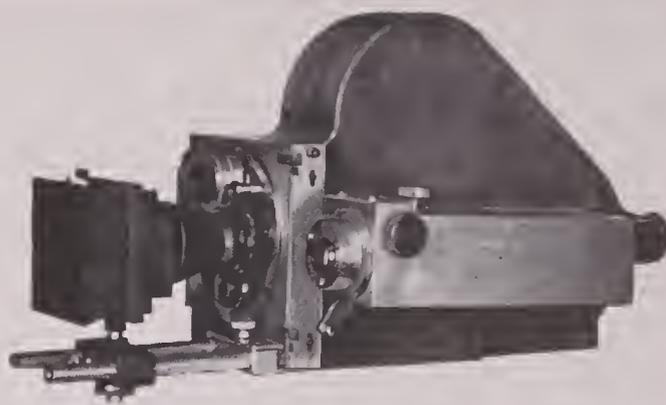
The ultimate aim of kinescope recordings is to obtain a quality comparable to

film. Realization of this goal is still many years away and current kinescoping leaves much to be desired. Even when kinescopes are perfected, they'll not be as acceptable as film, for photographing from a tube of 525 lines is similar to photographing a newspaper cut. Imperfections in the cut (and electronic lines of the tube) always will be transferred to the copy.

This new method of making TV film does away with all the objectionable features of kinescopes and makes it possible for a star to do an entire series in a short period of time, not tying him to a regular weekly schedule. The show can be filmed in Hollywood, Chicago, or New York at a time convenient to the actor and can be released whenever the sponsor desires. Not only is the actor's appearance protected, but so is his performance. Retakes always can be made if necessary. Furthermore, our technique catches all the spontaneity of live video because the players go through the story in much the same way as they would for a stage play.

By pre-planning every move, streamlining stage operations techniques and minimizing waste footage and coverage, shooting time is cut many times below what formerly was thought possible.

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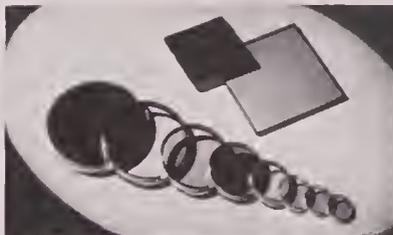
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for use in production of
motion pictures.

PRICE \$97.50

Containing five viewing lenses which match the five standard lenses used in motion picture cameras (28, 30, 40, 50, 75mm), the Optimus Motif provides instant, overall scanning of the scene exactly as seen by the camera lens. Positive click stops and the milled ring on the instrument make it simple and easy to use. An optical adjustment is provided to compensate for varying degrees of eyesight.



C T COATED FILTERS



Mounted between optically flat glass, these Color Temperature Filters are low-reflectance coated for minimum light loss and freedom from flare. They are now available in a full range of sizes and a complete series to raise or lower color temperature by any desired amount.

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This 2% density optical viewing glass, shows the highlight and shadow details of scenes exactly as reproduced on color film. Changes in illumination of subjects to be photographed may be made as indicated by the use of this viewing glass.

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Panchromatic Viewing Glass for black and white film—\$2.95 plus excise tax



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CINE-VOICE DEMONSTRATED FOR A. S. C.

(Continued from Page 232)

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We are proud to offer, in addition to the items listed below, and in our larger ad on page 170, a complete line of 16mm. and 35mm. negative and positive stock at a fraction of prevailing market prices.

NEUMAIDE STRIPPING FLANGE, 10" diameter with brass hub. New.....\$4.50

NEUMAIDE FILM MEASURING MACHINE 35mm Model M-37-S. single hub. New.....\$24.50

NEUMAIDE COMBINATION FILM SYNCHRONIZING MACHINE, 35mm and 16 mm. Model M-38-S\$75.00

NEUMAIDE FILM WAXER, 35mm. New.....\$17.50

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DUPLEX AUTOMATIC CONTINUOUS COLOR PRINTER, 35mm continuous, fully automatic correcting for both quantity and quality of light; dual units on single stand; each head a unit in itself printing up to a total of 120' per minute. The unit will handle up to 80 scenes of 100' of film; any monopack color film may successfully be printed with this unit. Like new. Quotations on request.

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STEP PRINTER, with Geneva movement \$75.00

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STUDIO LAMP, with large 22" diameter chrome reflector on adjustable collapsible stand; focusing mount for bulb, complete with cables and scrims in fitted case.....\$35.00

OTTO K. OLSON CRECO, 2000 watt Mogul Bi-Post base 18" spotlight, less fresnel lens.\$28.50

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

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Cans, 16mm x 400 ft., used.....35c

Reels, 16mm x 800 ft., used.....89c

Cans, 16mm x 800 ft., used.....89c

Reels, 16mm x 1200 ft., used.....98c

Cans, 16mm x 1200 ft., used.....98c

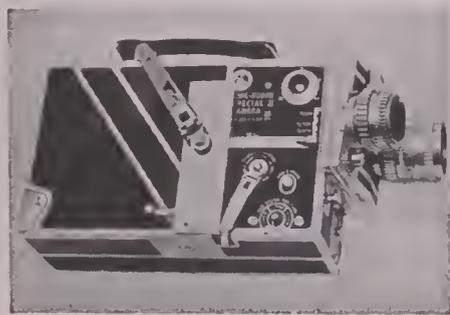
Reels, 16mm x 1600 ft., used.....1.19

Cans, 16mm x 1600 ft., used.....1.19

See Our **BIG AD** on Page 245.

THE COOGAN COMPANY

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Make a perfect dissolve every time with your Cine Special!

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turret front accommodating three lenses may be had at slight additional cost. The sound channel is compact and sufficiently light in weight to allow it to be carried easily along with the camera. For traveling, camera, amplifier, mixer, etc., fit into one compact carrying case.

Charles Short, who did the photography on the A.S.C. demonstration reel and Al Brown, who handled the sound demonstrated the ease with which a crew of two can make professional motion pictures with this Auricon equipment. Before a critical audience of the industry's top directors of photography, subsequent screening of the film revealed excellent pictorial results—a steady picture with sharp focus throughout ev-

ery scene. The sound, from a technical standpoint, was perfect.

Contributing also to the success of this innovation were the Color-Tran lighting equipment furnished by Tom Hunt, and the fine titles by Telefilm, Inc. Cine Craft laboratories' fast processing gave many of those present their first demonstration of results of this new film finishing technique, which has made possible the production of speed films for television such as newsreels and racing results.

The Film, titled "American Cinematographers On Parade," will again be screened for A.S.C. members at the Society's July 17th meeting.

35mm. COLOR PRINTS FROM 16mm. COLOR ORIGINALS

(Continued from Page 235)

highly attractive to producers who require limited numbers of release prints for their particular markets, and to whom costs are of paramount importance. The overall savings are appreciable compared to the cost of working in any other 35mm. three-color medium. Additional charges incidental to photographing in 35mm. three-color, such as raw stock, laboratory processing, shipping and equipment costs, might well determine the difference between profit and loss on some productions.

"Another use for direct blowup theatre prints is for the industrial and documentary film market. As a rule producers in this field work exclusively in 16mm. color, and their films are exhibited to 16mm. non-theatrical audiences. Occasionally, however, there will be a need for a few 35mm. color prints for special "showcase" showings in theatres and large auditoriums. Inasmuch as intermediate film steps are not necessary before the first print can be made, even a single print may be ordered without incurring the usual costly preparation work.

"Filmeffects of Hollywood has found the Ansco Color 732 raw stock to be ideally suited to the making of 35mm. three-color theatre prints directly from 16mm. reversal color originals. The 732 stock is exposed in an optical printer, enlarging from the 16mm. color original. The sound is printed from a 35mm. direct-positive sound track and the film is processed and waxed, and is then ready for theatre projection. In this manner, a three-color image can be transferred from a 16mm. original directly

to a 35mm. theatre print in one step. There are no intermediate films involved, no registration problems, and the prints can be made at the rate of thirty to sixty feet per minute.

"For many of the producers using the direct blowup release print process, it is their first attempt at making a film in color. Shooting in 16mm. sometimes misleads to further economy, particularly in the selection of equipment and technical personnel. Such economy is false, and can be quite disastrous when the film must compete in the theatres with original 35mm. pictures. The smaller size and the comparatively low cost of 16mm. film should not lead the producer to believe that other requirements have been reduced proportionately. As in all color processes, the quality of the release print depends a great deal upon the perfection of the original photography. A poorly photographed scene in black and white can often get by because its deficiencies are recorded only in tones of grey. The same scene photographed poorly in color will usually stand out badly as a glaring misrepresentation of reality.

"The cameraman must pay particular attention to lighting contrasts, color values, and exposures. Also, filming in color causes the problems of makeup, costuming and set decoration to grow in importance. All of these arts become increasingly vital factors to be considered in striving for photographically smooth 35mm. color theatre prints.

"Cameras and accessories must be selected with great care. Excellent 16mm. professional equipment, with

critically sharp lenses, is now available. This equipment is of standard design and can be used in conjunction with most other existing studio equipment, with little change in operative technique required. Most of the difficulties encountered by cameramen shooting color for the first time arises from insufficient knowledge of the limitations of the particular material they are using. For this reason, it is just as important in 16mm. to use seasoned technicians as it is in any other color photography, regardless of the size or type of film used.

"Editorial work can be carried out in several ways. If desired, a 16mm. color work print or a black and white reversal work print can be made. For 35mm. producers, perhaps the handiest method would be to use a 35mm. black and white work print, which allows for editorial and dubbing operations to proceed in conventional fashion, utilizing standard equipment. Edge numbers from the 16mm. color original can be transferred to the sound track area of the 35mm. work print during the procedure, making the matching of the original color a comparatively simple job. Great care should be taken in handling the original film, as the slightest abrasions or scratches are greatly magnified in the 35mm. blowup. The best of major studio negative cutting procedures should be prac-

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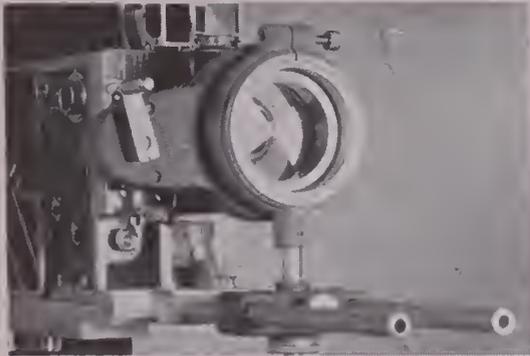


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ticed to the letter, in order to insure a cleaner, scratch-free original.

"When a great number of lap-dissolves are desired in a release print, the original is generally assembled in A and B rolls. (See article on this subject in the April, 1950, issue—page 126.—Editor). This arrangement permits the dissolves to be made each time while printing directly from the camera original. If the optical effects are few or involved, dupe sections incorporating the effects can be cut in with the original. Corrections are made semi-automatically, where necessary.

"Thirty-five millimeter Ansco Color printing masters can also be made from the 16mm. original, for making theatre prints by contact. For this work Ansco 735 camera stock is generally used. The color quality of the prints made from such masters, even if the original has been masked, is not as satisfactory as those enlarged directly from the original. This, of course, is due to the fact that the print from the master is one generation further away from the original than the direct blowup. However, when a great number of prints are required, there is a saving in cost, which may be worth the color loss to some producers.

"The Acme-Dunn optical printer used by Filmeffects of Hollywood in making the Ansco Color blowup release prints features a 16mm. projector head equipped with a Bell & Howell type shuttle movement. This movement is fitted with two register pins placed side by side to accommodate double perforated originals, or they can be re-set one above the other for single perforated film. The 35mm. camera head is also of the Bell & Howell type, with a positive-matted aperture and a variable-opening shutter for the making of fades and dissolves. The light source is a 750-watt projection lamp fitted with a highly efficient condensing system. Provision is made between the lamp house and film for diffusion screens and color-correction filters. Lenses used are the four-inch f/4.5 Cooke Copying and the four-inch f/2.8 Eastman Printing Ektar.

"The sound track required for this process must be a 35mm. positive image in negative position, generally obtained by re-recording to a direct positive. The exposed print is then processed by the laboratory, using Ansco Color 732 release positive stock. During the processing, the sound track area is sulfide coated to render the unexposed areas of the dye track opaque."

FILMING A WEDDING

(Continued from Page 241)

the family assigned to him as "technical advisor" to properly identify his cast of characters.

The film will fall naturally into two sequences: the wedding itself, and the reception. Where the church is a pictorially attractive structure, start by making a long shot of it. A similar shot might also make an ideal background for superimposing a title. This scene need not be filmed on the day of the wedding; it can be shot before or after that date, whenever shooting conditions are most ideal. In case the church happens to be an unattractive building, or if it is located in a section of town that is not particularly photogenic, select one attractive feature, such as the doorway, and use it for identification. Or shoot your scene of the church on the day of the wedding so that the festivities themselves can add interest to the scene.

Photography of the wedding ceremony inside the church presents some unique problems, which are often impossible to solve. The main problem, of course, is one of getting enough light on the subject. The average church does not have a great amount of natural light coming through the windows, especially if they

are of stained-glass, but the light level may be sufficient provided fast lenses are used along with a high-speed black and white film. Photographing in color, of course, will demand a great deal more light; also one must always consider the matter of color temperature.

It is the personal feeling of many people that floodlights installed in the church for filming a ceremony distract from the sanctity of the occasion—and indeed this has a lot of truth. But with the new mushroom-type floodlights and reflector-spotlights it is sometimes possible to hide clamp-on lighting units behind pillars, draperies, etc., and thus achieve a light level sufficient for photography. Where such units are used to boost the daylight level for color photography, they should have light blue filters in front of them so the color temperature will be consistent with that of daylight.

Where it is possible to conceal lighting units in the church, there still remains the hazard of overloading circuits. Therefore it is wise to check with the maintenance man to determine how heavily fused are the church circuits and how best to use the current available.

This problem can be greatly minimized if one or more of the portable transformers now on the market are used to boost the existing current. In any event, be sure to check all details concerned with lighting before proceeding to set up your lighting units. In this way, you will avoid embarrassment to yourself as well as to the families of the principals.

The sequence at the church should include exterior shots of the guests arriving and chatting with each other prior to entering the church. Be sure to get some shots of the inevitable group of guests awaiting arrival of the bride. It will especially enhance the picture to get some shots of members of the families, starry-eyed with expectancy as they await the beginning of the ceremony.

Let us assume that it is possible to film some scenes of the ceremony inside the church. In such event, set the camera fairly well back from the pulpit, preferably on a balcony or rear choir-loft, so that the camera noise will not disturb the ceremony. It is advisable to have at least three lenses of varying focal lengths, so that you can flip from one to the other and thus lend variety of composition to such one-position camera shots. Try to gauge your filming so that you will be able to capture intimate closeups at the most meaningful parts of the ceremony. In order to avoid wasting film on the more routine parts of the ceremony, it is advisable for the cameraman to attend the rehearsal and take notes of the high points.

Very often church windows are so placed that brilliant patches of sunlight will fall upon parts of the interior, while the other areas remain in shadow. Where this is encountered, try to frame your compositions so the underlighted areas are excluded, and so you may open your lens wide enough to give sufficient exposure for the action itself. Where it is just plain impossible to shoot footage inside the church, try to secure some good still pictures of the ceremony afterward and photograph them later in a titler.

As soon as sufficient footage of the recession has been secured, make a quick exit and be prepared to film the action which follows the ceremony. This will include scenes of the principals leaving the church and getting into their cars; the guests talking to each other and to the families of the bride and groom; and occasionally other human-interest scenes which should be included. Special effort should be made to get shots of the families' reactions to this particular moment, as these are the scenes that will be so meaningful in years to come.

The reception is the second important sequence and one which poses its own peculiar problems — namely those of

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"We tested this Cine-Voice Camera and found it to be superb. It was promptly sold and we would appreciate immediate shipment of another unit."

Paul Rubenstein
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"Have had the pleasure of seeing the Auricon...it's sensational."

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"Being a satisfied user of the Auricon-Pro Camera in our Television Motion Picture Department we are interested in your new camera, the Cine-Voice."

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"The Cine-Voice was sold to a very happy customer 30 minutes after we received it."

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"I took home a Cine-Voice Camera and made a test film and was very pleased with the results. The sound track was excellent and the picture was very steady."

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"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."

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"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
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"I have completed the initial tests with the Auricon Cine-Voice and I am pleased beyond words."

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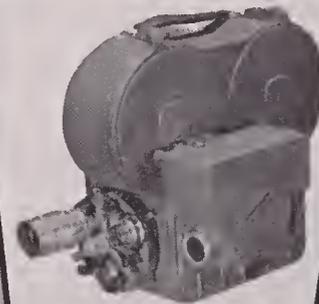
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CORRECTION

In our advertisement on page 208 of the June issue of *The American Cinematographer*, the Mole-Richardson studio dolly was erroneously priced \$895.00. The correct price of this item is \$1,345.00.

The CAMERA MART, Inc.
70 West 45th St. New York 19, N. Y.

lighting and of keeping the guests from trampling the cameraman and his equipment. The lighting problem can be a real headache if the reception is held in a private home, since there is the matter of current for lamps to consider, as well as the placing of lights in positions where they will not be knocked over or pulled loose from the wall plugs. Here again, it is best to arrange clamp-on units, making sure they and the attached cords do not become a hazard in the presence of the milling throng of joyous people.

As far as subject matter here is concerned, the "must shots" include the reception line with suitable closeups, cutting of the cake, tossing of the bridal bouquet, the kissing of the bride, and various intimate closeups of members of the wedding party. The latter are very important, because in years to come, the bride will surely want to remember with fondness those who were her attendants on the happiest day of her life.

The film should conclude with the inevitable shots of the bride and groom in traveling clothes, leaving on their honeymoon. If the car has been decorated with any special kind of trimming, get

several closeup shots. Then you will have to be especially alert to get a number of scenes of the couple leaving, entering the car, and driving off. You will want to capture the happy hysteria of that last minute departure, including the closeups which will add special zest to the sequence.

It is always nice to make up a special set of titles to augment movies of a wedding. These may be printed or hand-lettered on suitable stock, along with sketches, cartoons, or still pictures representative of the affair. If you can make a nice shot of the church, a closeup of church bells tolling, or a closeup of the bridal bouquet, superimpose on such scenes titles which have been lettered on a black card and then double-exposed on the original scene.

The wedding film, we repeat, is in a class by itself. Whether you undertake the assignment as a personal favor to a friend, or as a remunerative avocation—remember that it is a very special movie, one that will bring happiness to at least two families and their friends for many years to come.

TACKLING YOUR FIRST AMBITIOUS FILM PRODUCTION

(Continued from Page 242)

On the other hand, there are some situations the physical requirements of of which are such that it takes a fairly competent actor to give a performance that looks casually realistic. In such a case, it is better to draw upon your local "little theater" group or the drama department of local high school or college in order to obtain people accustomed to acting, and who can achieve the result required without need for too much direction.

In the actual filming of the subject, suit your camera treatment to the situation. Until recently, the word "documentary" was used euphemistically to describe poor photography, but there is no reason why a realistic photographic approach must be technically poor. While one would not want an over-glossy camera treatment sugared with backlighting and reflectors, there is no reason why the lighting should be flat and undramatic, or why the camera approach should be devoid of interesting angles. Somewhere between the stark newsreel style and the "arty" approach is a happy medium particularly well suited to the treatment of documentary subjects.

Lighting for the documentary film should simulate source wherever possible. Here again, simplicity is the keynote. Simple lighting units such as mushroom-

type reflector photofloods in clamp-on sockets are ideal for shooting interiors. In lighting your sets, establish the key light in terms of the natural source of illumination. For documentary subjects, it is best not to use too much fill light because this tends to subdue the dramatic effect which is achieved with a less balanced light.

Action patterns in the documentary subject should be kept simple and direct. Where an actual situation is being re-enacted, rehearsals are advisable so that all awkwardness of movement may be eliminated when time comes to film the scene. Occasionally, it is necessary to film actual situations as they occur. In such cases, a simple style of newsreel technique may be used, provided that a variation of angles is brought into play. Where a camera at the scene would be distracting to the subject, it will be necessary to work from a concealed vantage point. Nearby buildings with windows may be utilized, especially if the camera is equipped with telephoto lenses for securing close-ups. Where the action is, by its very nature, repetitive, film several takes with different lenses, which may be inter-cut for variety.

Editing of the documentary film should be done according to the sequence outline in the script. Here again, reaction shots will do much to draw the

audience into the mood of the picture, and make the treatment more subjective. Such scenes also serve as cut-aways to cover lapses in time or action. The style of editing will necessarily vary, depending upon whether the film is to be silent with titles, or if sound is to be added later. A more rapid pace of editing may be followed in cutting the sound film, because the main burden of exposition is not thrown solely upon the visual image.

Suitable titles for the documentary can be made by super-imposing white lettering over a background scene directly tied in with the subject. Such super-impositions can be made either by double-exposure or double printing. An effective, if not especially original, device is that of beginning the film with the opening scene of action, fading in the titles over it, and then allowing the titles to fade out, so that the scene continues on into the action of the picture itself.

The documentary film offers an interesting challenge to the ambitious amateur cinematographer. It calls for no elaborate equipment or preparation, and the subject matter is unlimited. As the poet said, "The world is full of a number of things," and most of them can be pictured interestingly on 8mm. or 16mm. film by imaginative amateur cinematographers.

Historic Movies To Be Collected At George Eastman House

Important productions in the history of motion pictures will be collected and stored at George Eastman House, the international photographic center in Rochester, N.Y. American and foreign movies which trace the development of the motion picture from its beginnings in the early 1890's will be preserved for study by students of film art.

Completion of the Dryden theatre, now under construction at Eastman House, will permit showing of both historical and modern, non-commercial films to students.

The Eastman House collection will be designed primarily for study of the motion picture. It will enable students to:

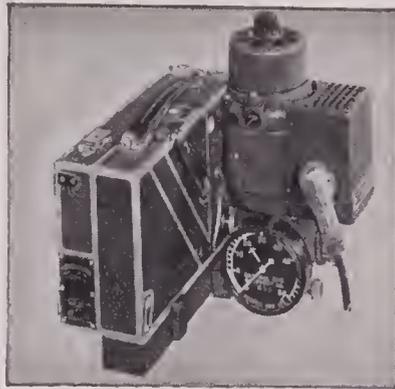
1 — Examine films which constitute major developments in the technique and style of film making.

2 — Observe the manner in which changing social problems affected the motion picture.

3 — Trace the growth and changing techniques in work by leading directors

4 — Refer to newsreels and documentaries as sources in study of specific events, or to obtain authentic details of dress and architecture.

5 — Compare many versions of identical stories which have been repeated through the years.



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UNDERWATER PHOTOGRAPHY

(Continued from Page 236)

in seven neutral shades from white through grey to black, and each experiment, under each set of conditions, of measured water clarity, consisted of a "run" swimming towards the target with the camera operating continuously from the limiting range of vision up to within one or two feet of the target. Various frames could then be picked out from the negative, corresponding to different distances of the camera from the target, by measuring target image size on the film; and since the films were processed under commercially controlled conditions, it was possible to measure the target and sea densities in a micro-densitometer and relate the contrast, in terms of density difference, to camera distance.

The next step necessary was to consider what could be chosen as the limiting contrast permissible in the negative for visibility in a photograph. The figure eventually chosen was contrast of 0.2 density difference or ratio of 1.6 to 1, which was found to give reasonably good reproduction. The range at which this limiting contrast was reached could then be plotted as limiting range against the other variables, and the following conclusions were reached:

(a) Water Clarity

The clarity of the water is the greatest factor in determining the limiting range of photography and even in the clearest water encountered off the coast of Malta, using a white object in summer sunshine at shallow depths, pictures of good contrast are not obtainable at (horizontal) distances of greater than 30 feet. This range is greatly reduced by increasing water turbidity, and the limiting range under the same conditions in Valetta Grand Harbor is reduced to 7 feet. The actual results obtainable under the different conditions of water clarity are illustrated by Fig. 3, which shows the target at different distances from the camera in six different locations. From these results, curves have been plotted enabling the range of limiting visibility of targets of any reflection factor to be predicted in waters of different clarity.

(b) Tone of Object

It will be seen from Fig. 3 that the white portion of the target is always brighter than the sea background, and the black part always darker, while a fairly dark grey nearly matches the sea in brightness even at very close ranges. The least visible grey tone with direct sunlight was found to have a reflection factor of about 16%. The lighter the object above this value, the more visible it becomes, and also the darker below this value, the more easily visible by

silhouette. With direct sunlight, greater ranges can be obtained with white targets than with black, and it is interesting to note the greater effect of reflection factor at values around 16 per cent, where an increase from 20 per cent to 40 per cent reflection factor may give an increase in range from 7 to 22 feet, while an increase from 40 per cent to 80 per cent will only increase the range from 22 to 31 feet.

(c) Angle of Sunlight

The effect of tone of an object is entirely dependent on angle of lighting. When viewed looking towards the sun, all parts of the target are darker than the sea against which it is viewed and consequently the black tone becomes more visible, and the white tone less. This gives an indication of a possible way of improving the visibility of dark objects (below 16 per cent reflection factor) although the range obtained is never as great as for a white object directly illuminated by sunlight through the water.

(d) Depth

Increasing the depth at which photography is carried out, reduces the directional effect of the lighting as well as the intensity of both scattered and reflected light. The effect will vary with water clarity, but one result in very clear water shows a reduction of between 30 per cent and 40 per cent in range on increasing the depth from 6 feet to 40 feet.

(e) Exposure

In order to be able to estimate the correct exposure under water, a visual exposure meter was constructed. This instrument is a multiple spot type of brightness meter, having illuminated patches of different brightness on a transparent screen, through which the scene can be viewed. The spot most nearly matching in brightness the average brightness of the scene is noted, and the instrument can be calibrated directly in stop numbers for each spot, for a given combination of film emulsion and camera exposure time.

This exposure meter was used throughout the summer trials of 1948 and proved a useful tool for assessing correct exposure. Reasonable latitude, however, seems to exist in this factor, as the range of contrast in any given scene is usually low, and the negative can be exposed to register such a scene at any point along the straight line portion of the negative characteristic within quite wide limits.

(f) Film Emulsion

Ilford HP.3 film was mainly used for the trials, and was found very satisfactory on account of its speed and wide working range. Comparative tests were

carried out by filming the target under the same conditions with two other types of film in rapid succession, and comparing the target contrasts and emulsion response characteristics when processed under commercially controlled conditions. The results of these tests showed that Ilford recording film (type 5.G.91) is slightly faster than HP.3, and when recording low densities can give greater contrast. Where sufficient light is available, the greatest range of visibility is given by Kodak "Background X" film, although this material has severe limitations for this work due to its low speed.

No improvement in contrast has been found under normal conditions by using a polarizing filter over the camera lens, although tests were made by rotating the camera about the optical axis to determine whether there was any critical angle of orientation at which selective absorption of the scattered light took place. The possibility of such a filter being of use with artificial lighting, where the relative positions of light source and camera are more closely controlled, has not however been ruled out.

Work in turbid water has shown that there is no advantage in the use of color filters, but it has since been pointed out that a light haze-cutting filter has been found by some workers to be of value in clearer water, in view of the greater amount of scattered light in the blue region of the spectrum. We have, however, been more concerned with trying to improve the visibility in poor water to approach that in clear water than with improving the latter. One way to do this is to bring the lighting under control.

In turbid waters, the daylight scattered by the large quantity of material in suspension reduces the contrast of the object with its surroundings very greatly, even at a distance of a few feet, and absorption by the particles reduces even the bright Mediterranean sunlight below the limit for photography at 20 or 30 feet. Under these conditions, artificial lighting must satisfy two requirements: it must provide sufficient light to register on the photographic emulsion, and it must be so designed and applied as to bring out the maximum contrast between the object and its surroundings.

Artificial lighting has also its use in clear or fairly clear water where the object, which may be the side or bottom of a wreck, is in very deep shadow, or where a ship's propeller or bottom plates are to be photographed and are thrown into deep shadow by the hull. In all cases where there is still sufficient daylight to affect the film, it is preferable to do the photography at night, when it will be found that, with proper placing of the lights, the contrast can be improved over that obtainable in daytime.

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The equipment developed experimentally for underwater lighting comprises at present 250-watt and 400-watt mercury-vapor and 45-watt sodium-vapor floodlights, using trough reflectors of anodized aluminum. These floodlights can be arranged to cover an area of two or three square feet from a short range, and are equipped with screens to prevent direct lamplight from illuminating the water between the object and the camera.

In addition to these floodlights, a 250-watt mercury-vapor spotlight with a 4-

inch diameter beam of small divergence is available for increasing the illumination on a small detail of the scene, or to enhance contrast by cross-lighting. This spotlight, or the 250-watt floodlight, can be operated from a 250-watt portable gas-generator; the sodium-vapor lamp, with a 24-volt battery-driven generator.

NOTE: Mr. Collins' article on Underwater Photography will be continued next month and will describe the design of cine cameras for underwater photography, diving technique, and the results obtained.—EDITOR.

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

- HARRY STRADLING, "Valentino," (Edward Small Prod.) with Tony Dexter, Eleanor Parker and Richard Carlson. Lewis Allen, director.
- IRA MORGAN, "Pygmy Island," with Johnny Weismuller and Ann Savage. William Berke, director.
- PHIL TANNURA, "Counterspy Meets Scotland Yard," with Amanda Blake and Howard St. John. Seymour Friedman, director.
- LEE GARMES, "The Hero," (Sidney Buchman Enterprises) with John Derek and Aldo Da Re. David Miller, director.
- JOSEPH WALKER, "Born Yesterday," with Broderick Crawford, Judy Holliday, William Holden, and Millard Mitchell. George Cukor, director.

Independent

- RUSSELL HARLAN, "Counterfeit," (Famous Pictures) with Don DeFore, Andrea King and George Tobias. Boris Ingster, director.
- JACK CARDIFF, "Pandora And The Flying Dutchman," (Lewin-Kaufman Prod., shooting in Europe) with James Mason, Ava Gardner. Albert Lewin, director.
- ROBERT DEGRASSE, "The First Legion," (Leo Prod.) with Charles Boyer, William Demarest, Walter Hampden, Barbara Rush. Douglas Sirk, director.
- MARCEL LEPICARD, "Again Pioneers," (Protestant Film Comm.) with Colleen Townsend, Regis Toomey, Russell Hicks, Sarah Padden. William Beaudine, director.
- RUSSELL HARLAN, "The Gun," (Phoenix Films) with Lee Cobb, Jane Wyatt, and John Dall. Felix Feist, director.
- ERNEST LASZLO, "M," (Superior Films) with David Wayne, Steve Brodsky, Glenn Anders and Walter Burke. Joseph Losey, director.
- FRED JACKMAN, JR., "The Man With My Face," (Ed Gardner Prod.—Shooting in Puerto Rico) with Barry Nelson, Betty Lou Gerson, Carol Mathews, and John Harvey. Edward Montague, director.

Lippert

- KARL STRUSS, "The Return of Jesse James," with John Ireland, Ann Dvorak, and Henry Hull. Arthur Hilton, director.
- BENJAMIN KLINE, "Holiday Rythm," with Mary Beth Hughes, Donald McBride and Wally Vernon. Jack Scholl, director.

M-G-M

- HAROLD ROSSEN, "To Please A Lady," with Clark Gable and Barbara Stanwyck. Clarence Brown, director.
- CHARLES ROSHER, "Pagan Love Song," (Technicolor—shooting in Hawaii) with Esther Williams and Howard Keel. Robert Alton, director.
- PAUL VOGEL, "Watch the Birdie," with Red Skelton, Arlene Dahl, Ann Miller, Pamela Britton and Leon Ames. Jack Donohue, director.
- JOHN ALTON, "Grounds For Marriage," with Van Johnson, Kathryn Grayson, George Murphy, and Paul Raymond. Robert Z. Leonard, director.

- JOSEPH RUTTENBERG, "It's A Big Country," with Janet Leigh, Gene Kelly and S. Z. Sakall. Charles Vidor, director.
- ROBERT SURTEES and WILLIAM SKALL, "Quo Vadis," (Shooting In Italy) with Robert Taylor, Deborah Kerr. Mervyn LeRoy, director.
- RAY JUNE, "Mrs. O'Malley and Mr. Malone," with Marjorie Main, James Whitmore, Ann Dvorak, Phyllis Kirk, Dorothy Malone. Norman Taurog, director.
- ALFRED GILKS, "Shep Of The Painted Hills," (Technicolor) with Lassie, Paul Kelly, Bruce Cowling, Gary Gray. Harold F. Kress, director.
- GEORGE FOLSEY, "Vengeance Valley," (Technicolor) with Burt Lancaster, Robert Walker, Joanne Drue, John Ireland, Sally Forrest. Richard Thorpe, director.

Monogram

- WILLIAM SICKNER, "Bomba And The Hidden City," with John Sheffield and Sue England. Ford Beebe, director.
- HARRY NEUMANN, "Mexican Silver," with Whip Wilson, Andy Clyde and Virginia Herrick. Wallace Fox, director.
- WILLIAM SICKNER, "Tall Timber," with Roddy McDowall, Jeff Donnell, Lynn Thomas and Lyle Thomas. Jean Yarbrough, director.

Paramount

- GEORGE BARNES, "Mr. And Miss Anonymous," with Joan Fontaine, Ray Milland, and Teresa Wright. George Stevens, director.
- CHARLES LANG, "A Relative Stranger," with Gene Tierney, John Lund, and Miriam Hopkins. Mitchel Leisen, director.
- RAY RENNAHAN, "The Great Missouri Raid," (Nat Holt Prod.—In Technicolor) with Wendell Corey, MacDonald Carey, Ward Bond and Ellen Drew. Gordon Douglas, director.
- W. HOWARD GREENE, "Quebec," (LeMay Templeton Prod.) with John Barrymore, Jr., Corinne Calvet, Patric Knowles, Barbara Rush. George Templeton, director.

R.K.O.

- J. ROY HUNT, "Rio Grande Patrol," with Tim Holt, Richard Martin, Jane Nigh. Lesley Selander, director.
- NICK MUSCARA, "The Man He Found," with Elliott Reid. William Cameron Menzies, director.
- JOSEPH BIROC, "Cry Danger," (Olympic Prod.) with Dick Powell, Rhonda Fleming, and Regis Toomey. Richard Parrish, director.
- FRANK REDMAN, "Crack Down," with Bill Williams, Robert Armstrong, Frank McHugh. Leon Barsha, director.

Republic

- ARCHIE STOUT, "Rio Bravo," with John Wayne, Maureen O'Hara, Ben Johnson, Claude Jarman, Jr., Chill Wills. John Ford, director.

20th Century-Fox

- CHARLES G. CLARKE, "I'll Get By," (Technicolor) with June Haver, William Lund-

gan, Harry James, Gloria de Haven and Dennis Day. Richard Sale, director.

- HARRY JACKSON, "American Guerillas In The Philippines," (Technicolor—shooting in the Philippines) with Tyrone Power, Micheline Prele, Tom Ewell, Jack Elam and Tommy Cook. Fritz Lang, director.
- MILTON KRASNER, "All About Eve," with Bette Davis, Anne Baxter, Celeste Holm and George Sanders. Joseph Mankiewicz, director.
- WINTON HOCH, "The Halls Of Montezuma," (Technicolor—shooting in Mexico) with Richard Widmark, Reginald Gardiner, Skip Homeier. Lewis Milestone, director.
- EDWARD CRONJAGER, "I'd Climb The Highest Mountain," (Technicolor with Susan Hayward, Wm. Lundigan, Rory Calhoun, Lynn Bari, Ruth Donnelly. Henry King, director.
- JOE McDONALD, "Fourteen Hours," with Paul Douglas, Richard Basehart, Deborah Paget, Jeff Corey, Agnes Morehead. Henry Hathaway, director.
- JOSEPH LASHELLE, "The Jackpot," with James Stewart, Patricia Medina, Alan Mowbray, James Gleason, Natalie Wood. Walter Lang, director.
- LEO TOWER, "For Heaven's Sake," with Clifton Webb, Joan Bennett, Robert Cummings, Edmund Gwenn, and Joan Blondell. George Seaton, director.

United Artists

- GUY ROE, "Sound Of Fury," (Robt. Stillman Prod.) with Frank Lovejoy, Kathleen Ryan, Richard Carlson, Lloyd Bridges and Adele Jergens. Cyril Endfield, director.

Universal-International

- MAURY GERTSMAN, "Frenchie," with Joel McCrea, Shelly Winters, Paul Kelly, and Elsa Lanchester. Louis King, director.
- CLIFF STINE, "The Milkman," with Donald O'Connor, Jimmy Durante, Piper Laurie and Joyce Holden. Charles Barton, director.
- WILLIAM DANIELS, "Harvey," with James Stewart, Josephine Hull, Peggy Dow, Charles Drake. Kenry Koster, director.
- GEORGE ROBINSON, "Abbott And Costello In The Foreign Legion," with Abbott and Costello, Patricia Medina, Walter Slezak and Douglas Dumbrille. Charles Lamont, director.
- HAL MOHR, "Woman On The Run," (Fidelity Prodn.) with Ann Sheridan, Dennis O'Keefe, Robert Keith, and Frank Jenks. Norman Foster, director.
- RUSSELL METTY, "Wyoming Mail," (Technicolor) with Stephen McNally, Alexis Smith and Charles Kemper. Reginald LeBorg, director.
- HENRY FREULICH, "Under The Gun," with Richard Conte, Audrey Totter, and John McIntyre. Ted Tetzlaff, director.
- IRVING GLASSBERG, "Kansas Raiders," (Technicolor) with Audie Murphy, Brian Donlevy, Marguerite Chapman, and Scott Brady. Ray Enright, director.
- CHARLES BOYLE, "Tomahawk," (Technicolor) with Van Heflin, Yvonne De Carlo, Preston Foster, Jack Oakie. George Sherman, director.
- RUSSELL METTY, "Katie," with Ann Blyth and Mark Stevens. Frederick de Cordova, director.

Warner Brothers

- ERNEST HALLER, "Dallas," (Technicolor).
- TED MCCORD, "Rocky Mountain."
- SIDNEY HICKOX, "The West Point Story."

DEEP FOCUS AND LONGER TAKES

(Continued from Page 235)

"For one thing," he said, "the Garutso lens contributes greatly to the 'long-take' technique, enabling the director to obtain takes of greatly sustained action and thereby reducing the number of camera setups. One camera take for 'Three Husbands' ran six script pages in length. This was a scene of a poker game involving six players. Throughout the picture, we did numerous scenes running two and three pages of dialogue in extent.

"Where some diffusion is desired in certain set areas, it is advisable to accomplish this with light and shadow, rather than with diffusion filters. Why do I object so to diffusion? Well, for example, if I have a player in the foreground and a second player full figure in the background, a little diffusion in such a case might be advantageous. But to employ a diffusion filter would adversely affect player in the background. In such a case, I would prefer to forego the filter and induce a measure of diffusion with light and shadow." Using this technique with the Garutso lens, Planer said, the person in the background, although subdued to some extent by the lighting, would nevertheless be rendered sharp and distinct, as witness the result in Fig. 2, a scene from "Three Husbands."

"There are marked savings to be gained in production costs due to ability of the deeper focus lens to pick up the smallest facial expression of an entire group of actors without the necessity of shifting camera and lights for individual closeups. All this makes set lighting simpler, too — and less costly. The director can stage much longer scenes, showing the emotions of players to greater advantage, without the necessity of numerous cuts. Irving Ries, who directed 'Three Husbands,' is not exaggerating when he says that we reduced our camera setups at least one-fifth on this picture, using the Garutso lens. In editing, too, the staging technique made possible by this lens eliminated a great deal of cutting.

"Finally, use of the lens benefits the players. Director Ries found that his players gave a better, more sincere performance in 'long-takes' where the action and dialogue is sustained, uninterrupted by the usual cuts for new camera setups. In 'Three Husbands' I employed a dolly shot that followed the players around the set in a continuous take that encompassed eight pages of dialogue. Obviously the players' performances are enhanced by the sustained mood. Jonathan Hale, veteran stage actor who plays an important role in the picture, said use of the

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new lens changed his entire cinemacting technique. 'It's more like the stage,' he said, 'and results in more sincere performances.'

"Having felt my way along, so to speak, filming 'Three Husbands' with this lens, I undertook the later assignment — 'The Dungeon' — in the same exploring mood, for here was a picture of another sort: a low-key mystery drama, quite different from the gay, frivolous 'Three Husbands.' In this picture I gained new experiences with the lens, shooting night scenes in daylight with Plus-X film. Ordinarily, I would use a very heavy 'night effects' filter and shoot with the lens wide open in filming scenes of this nature. Using the Garutso, I gained an

additional half-stop in exposure, enabling me to add still another filter for additional quality in the night effect shot.

"Now for the first time since inception of motion pictures," Planer concluded, "we have a lens that produces marked plasticity in composition — a lens that brings cinematography a step nearer the goal of the long-sought three-dimension. Where previously it had been used successfully only for filming small motion pictures and for television purposes, the Garutso may now be used with confidence by any director of photography for any type production, major or minor, once he familiarizes himself with the lens and its wide range of pictorial possibilities."

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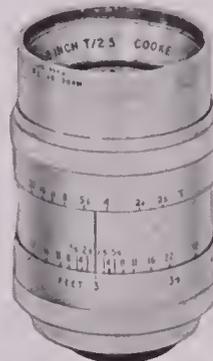
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AUGUST 1950



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ON THE COVER

ON A DOWNTOWN Los Angeles location for scenes for Paramount Pictures' "Union Station," director of photography Daniel Fapp, A.S.C., (top right) awaits director Rudy Mate's call to "roll 'em." Others in picture are (left to right) Rudy Mate, A.S.C., Haskell Boggs, operative cameraman, and Jimmy Grant, assistant, immediately in back of Fapp. Below are William Holden and assistant director Eddie Salven.—*Photo by Jack Kauffman.*

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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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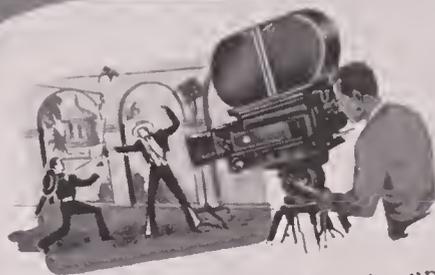
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Hollywood Bulletin Board



CHARLES G. CLARKE, A.S.C., winner of Picture Of The Month award for May for photography of Fox's "The Big Lift."

PHOTOGRAPHY of 20th Century-Fox's "The Big Lift" by Charles G. Clarke, has won for him the American Society of Cinematographers' "Picture Of The Month" award, announced at the Society's monthly meeting July 17. Clarke returns from France August 1st where he has been photographing "On The Riviera" in color. Following a brief rest, he will take off for Australia where he will photograph Fox's "Kangaroo."

JOHN BOYLE, A.S.C., returned from Japan, last month where he directed second unit photography on 20th Century-Fox's "Call Me Mister." Arthur Arling, A.S.C., heads the first unit at Fox Hills studio.

TRAVELOGUE, which Edgar Bergen, A.S.C., and John Boyle, A.S.C., photographed and produced in Sweden will emerge as a Warner Brother's two-reel short subject next month under title "Charlie McCarthy and Mortimer Snerd in Sweden." Boyle photographed the subject in 16mm. Kodachrome, using a Maurer camera. Release prints are by Technicolor.

BURTON HOLMES, recently reviewing some of his old films in storage, found certain footage that had been developed in river water in a Brazilian jungle was in better state of preservation than film that received laboratory processing!

ELMER DYER'S name has been added to list of Hollywood cinematographers who are finding increasing work in the production of films for television. Dyer recently completed photography on a series of 26 three-reel video subjects for Lewis Weiss. Previously, Dyer wound up photography of "I Killed Geronimo," proving that this veteran, noted for his aerial cinematography, is equally skilled with a camera on the sound stage.

MIKE DOYLE, erroneously reported here last month as affiliated with Cinema Arts Dept. of University of California is with University of Southern California.

HUMBERTO CORELL, Argentina motion picture executive, in Hollywood on an equipment purchasing mission, reports production is booming in South America.

HERB A. LIGHTMAN, on leave of absence as program director for Cameron Television, Tulsa, Okla., is in Hollywood winding up production of a Community Chest drive film for producer Bud Woods. Ray Fernstrom, A.S.C., did the photography.

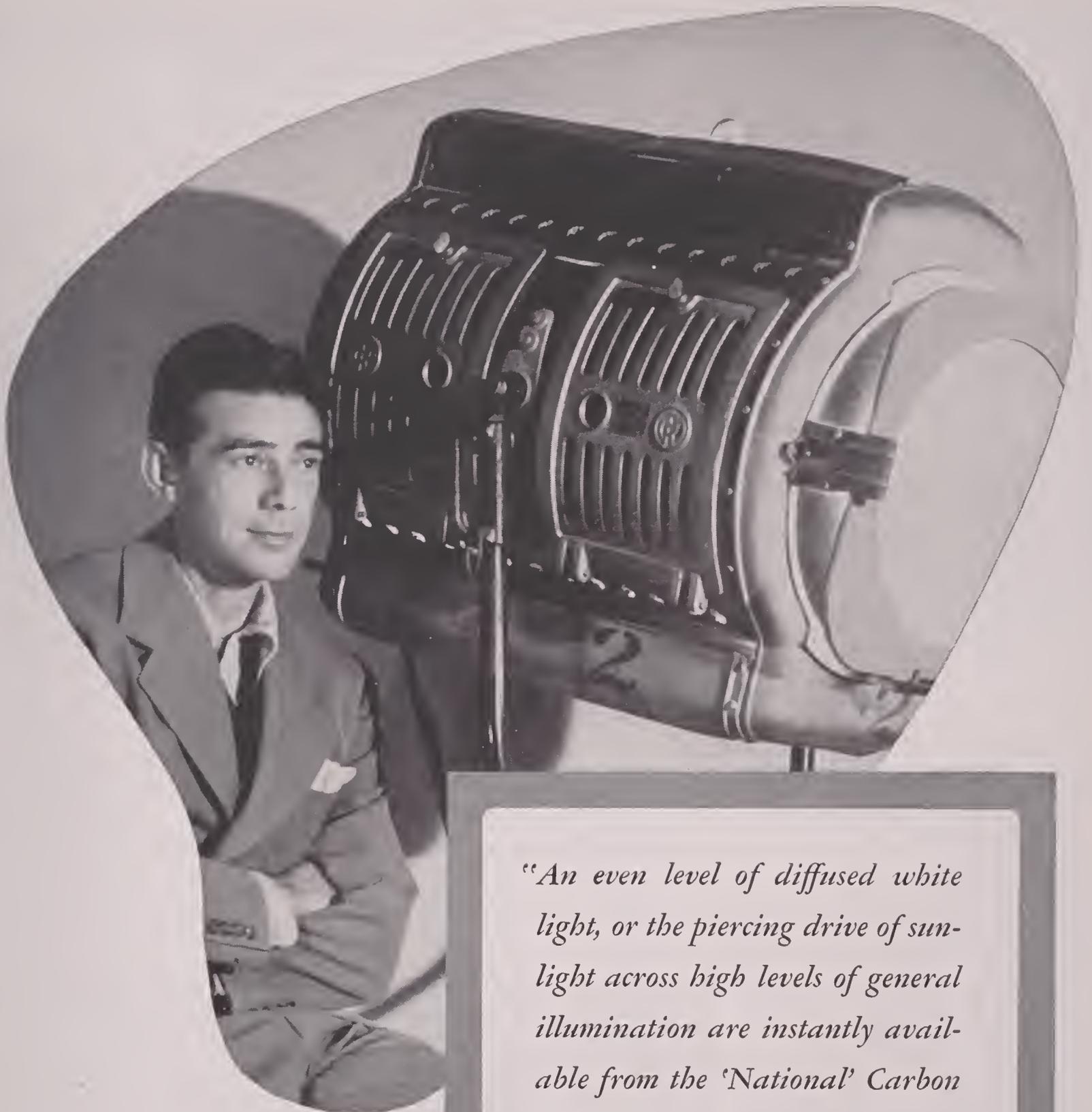
SOL HALPRIN, A.S.C., is in Germany for the purpose of scouting laboratory facilities in connection with production there of Fox's "Call It Treason," to be photographed by Frank Planer, A.S.C.

LEN ROOS, A.S.C., and **WILLIAM CRESPINEL**, A.S.C., heads of Kinevox, Inc., are presenting the American Society of Cinematographers with a public address system for its clubhouse in Hollywood, as an adjunct to Society's recently expanded facilities for conducting technical forums and demonstrations.

O. H. BORRADAILE, A.S.C., is off again to the land of penguins and Esquimos — this time to the Arctic where he will photograph a special assignment for the Canadian Film Board.

DON MALKAMES, A.S.C., currently photographing "St. Benny The Dip," in New York for United Artist's release, is brushing up on his Spanish preparatory to leaving for Spain and Tangiers where he will direct the photography on U-A's "The Man From Tangiers."

(Continued on Page 293)



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NEW MOTORIZED hydraulic "uplift" camera car is combination 4-wheel-drive army truck and freight-loading fork lift, makes possible use of blimped Technicolor camera in the most rugged of locations, and permits use of camera from ground level to height of fifteen feet.



WITHOUT disturbing camera or blimp, car moves into rugged location terrain for a closeup for Nat Holt's "The Great Missouri Raid." Inventor George Dye stands on camera platform while director of photography Ray Rennahan (cigar in hand) keeps eye on action.

Boom Shots Anywhere!

New 'uplift' camera car makes 'impossible' location shots possible.

By JOHN del VALLE

FUNCTIONAL features of the invincible 4-wheel-drive army truck have been combined with those of the familiar freight-loading fork lift to provide the motion picture industry with a new type camera car that affords exterior boom shots in the most rugged of locations. At the same time, several basic obstacles to full-scale movie production in rugged country also have been surmounted.

The new innovation which makes possible boom shots anywhere a jeep can go is the self-propelled hydraulic "uplift" camera car designed by camera technician George Dye and studio grip John Cooley. It consists essentially of a 4-wheel-drive war surplus weapons carrier on the front of which is mounted an hydraulic lift capable of hoisting any bulk up to three tons to a height of 15 feet. This capacity easily accommodates the 800-lb. Technicolor camera plus crew that normally constitute a maximum load under working conditions on a location set.

Successful first use of the uplift camera car was recently completed at Sonora, California, where it was used in filming exteriors for the Nat Holt production, "The Great Missouri Raid," photographed in Technicolor by Ray Rennahan, A.S.C.

A feature of the new car is that it also serves as a general "carryall" for equipment necessary to shooting — equipment such as mike boom, camera accessories; lighting aids like reflectors, gobos, etc., and, when necessary, booster and key lights. "The uplift camera car will do anything in the roughest country that a camera crane will do in the studio," said George Dye, co-builder and designer. "But more important," he continued, "the car now makes it possible to use the Techni-

color camera *with blimp* in rugged locations where never before attempted. Heretofore, it has been the practice to leave the blimp behind and shoot scenes in such locales without benefit of dialogue or sound, dubbing this in later. Thus it is necessary for the studio to tailor the script so that dialogue is recorded in scenes up to the inaccessible spots, then the

(Continued on Page 282)



SPEED AND MOBILITY are two features of Dye-Cooley "uplift" camera car that can transport a heavy Technicolor camera and operator to near-inaccessible locations, set up and ready for action.

ASPHALT JUNGLE" is a tautly-paced drama of the underworld that runs the emotional gamut from harsh brutality to quiet sensitivity. Its plot is based on the familiar chase pattern, but more specifically the pursuit by the law of a group of shady characters involved in a jewel theft.

It is the type of a story which, in less skilled hands, might have evolved into a run-of-the-mill melodrama — but favored by the incisive direction of John Huston, the outstanding photography by Hal Rosson, A.S.C., and top-notch performances by a uniformly excellent cast — the picture emerges not only as bang-up entertainment, but as a very artistic technical achievement as well.

It is Rosson's craftsmanlike photography as much as any other element or combination of elements that makes MGM's "Asphalt Jungle" an outstanding photoplay, for here is a film that leans heavily upon photographic mood in order to create its dramatic impact. For Rosson the filming of the picture was a particularly enjoyable experience

THE CAMERA is set for an over-the-shoulder shot of Louis Calhern writing a letter in a scene for MGM's "The Asphalt Jungle," with director of photography Hal Rosson, A.S.C., (far right) supervising last minute details before the take is made.

in that it marked the first time in his lengthy career as a Director of Photography that he has been called upon to create so starkly realistic a style of photography. "It is a great tonic for a cameraman to work with John Huston," he observes, commenting on the filming of the picture. "Huston is a man of very original approach. He knows what he wants but is very receptive to ideas and suggestions from his fellow technicians. He wanted 'Jungle' to have the look of having been filmed entirely in actual locales, without any *studio* atmosphere — and so we worked closely together to produce that effect."

The final product as it appears on the screen is indeed the result of very careful pre-planning by director and cinematographer. The picture's title refers to a *city* (and not, as many people



Realism With A Master's Touch

Startling depth of field and dramatic perspective mark the photography of "Asphalt Jungle," which Hal Rosson photographed almost entirely with a 35mm. lens.

By HERB A. LIGHTMAN



A CAMERA setup and the result are shown in these two pictures made on the set during filming of MGM's "The Asphalt Jungle." At left camera and lights are set in place



for a closeup of Marilyn Monroe on couch. At right is result of the careful lighting and camera placement by Hal Rosson, which made this simple shot so effective.

think, to the place where Tarzan used to hang out). But it was not important that the city be identified as any particular one — in fact, the producers preferred that the city be unidentified. With this in mind, and because the original script called for a waterfront locale, Huston and Rosson scouted locations in St. Louis and Cincinnati. After several weeks of scouting, it was decided that all of the scenic requirements could be met on the West Coast — so with the exception of one shot, all of the metropolitan shots were made right in Los Angeles.

For filming these scenes the studio received the close co-operation of civic authorities so that various areas could be roped off. Many of the sequences, as demanded in the script, were filmed in the early morning hours when the deserted streets lent further atmosphere to the situations.

In shooting the picture, Rosson avoided the usual "documentary" style of photography, which has become a kind of vogue since World War II. With all due respect to those who have achieved great cinematic effects through the use of this unvarnished type of photography, it can also be said that much downright poor photography has slipped by with the excuse that it is *documentary*. Rosson

(Continued on Page 286)



ONE OF HOLLYWOOD'S biggest camera booms was employed by Ray Fernstrom in filming scenes for a series of video spot film announcements for Ford Motor Co. Shadow patterns projected on huge backdrop enhanced pictorial composition.

Filming Fords For Video

Major production values enhance photography of new series of television spot announcements for Ford motor cars.

By RAY FERNSTROM, A.S.C.

IN THIS RAPIDLY changing world, pictures — *moving* pictures — are exerting tremendous influence on people. Confucious, as now we well know, was so right when he said one picture was worth ten thousand words; and if further proof

is necessary we have only to look at the statistics, which prove that television is a far more potent selling medium than radio.

Little wonder then that Ford Motor Company is among the first to employ

television to promote the sale of automobiles. They know the value of presenting their product pictorially, and are now bringing Ford motor cars right into the homes of millions of Americans through the medium of motion pictures and the kinescope tube.

Fords are so well known and so numerous that simply picturing a shiny new Ford sedan or convertible on the screen was not considered sufficiently potent. Something new was demanded to make Ford's television presentation simple but effective. Ford Motors found the answer in United Productions of America, whose studio is in Burbank, California. Here were men with years of motion picture experience behind them, but more important they had been schooled in the short subject field, in the production of animated cartoons. Thus they came to know the potency of simplicity as applied to screen composition, and it was this simplicity applied to the first television commercial films U.P.A. produced for Ford that set the pattern for a new and extended series of Ford TV commercials.

While the settings for these commercials demanded the skilled engineering of U.P.A.'s veteran set designers, it was on the cinematography that these Ford television films were to stand or fall. As the director of photography for the films, I saw opportunity to utilize theories lying back in my mind for some time. I had long felt that not all the tricks of our cinematographic art had yet been applied to the production of films for television. Where heretofore television films had been greatly restricted by skimpy-budget methods, U.P.A. decided that only the best of cinematographic techniques, should be employed in making the Ford

(Continued on Page 283)



DOMINANT cinematic device was the moving camera used extensively in photographing the series of Ford television and advertising films.



THE CAMERA moved in close to show detail of each car's interior styling and handsome dashboard; posed some unusual lighting problems.

Taking Full Advantage Of Magnetic Recording

Latest magnetic sound recording methods and equipment enable studios to cut costs and speed up production.

By LOREN L. RYDER, A.S.C.

Director of Recording, Paramount Pictures Corp.; President, Ryder 16mm. Services, Inc.

THE ADVANTAGES of magnetic recording can reach far beyond quality improvement and simplification in the sound department. In fact, the greatest simplification and potential savings are to be made in the laboratory, editorial, camera and production departments.

Sound has been credited with saving the motion picture industry in the late twenties. However, production schedules doubled and trebled; sound film footage equaled picture footage; laboratory costs and processing doubled; editorial film handling more than doubled; cameramen started dodging the microphone; cameras were turned over by remote control and production shooting went on a pre-cued basis. In the intervening years most technical advancements have improved quality and added complexity. Individual departments may have simplified their technique, but in twenty years there has been no overall review and change in inter-departmental handling. This may be the time to make such a change.

In evolving the system outlined in this article, the writer has made every effort to make picture shooting with sound as simple as possible, basing the general scheme of operation on the procedure used before the advent of sound. The reward is a large saving to the user.

The system includes a suitcase production recording channel using 17½mm. magnetic film, a system of transferring the print takes to direct positive photographic film for editing and an edge-numbering device for identification and synchronization of all film. At the Paramount studio, 35mm. magnetic film is used for all dubbing and scoring. The transferring during picture finishing is largely magnetic to magnetic.

The production recording channel is shown in the illustration. It includes a two-dial mixer, a power unit (not shown) and a recorder. The complete channel, loaded ready for use, weighs under 100 pounds. In operation two recorders are assigned to production, each loaded with 2,500 feet of magnetic film. This eliminates loading delays and minimizes run-outs. These recorders are



AUTHOR displays two units of three-piece portable, light-weight magnetic sound recording channel described in accompanying article.

completely automatic in operation and are turned over and killed along with the camera under the control of the cameraman, thus eliminating signalling and turn-over delays. On location the speed control is automatic and absolute. Synchronization is automatic and without clapsticks. Trouble shooting on production is eliminated. The equipments are exchanged in case of trouble or suspicion of trouble.

Subsequent to the day's work the print takes are transferred from magnetic to direct positive photographic "electro-prints" which in turn are developed and used for editing. The transfer reproducer is equipped with a counter and is capable of fast winding both forward and backward. The operator fast winds down through the roll, monitoring and checking his log, until the synchronization click for the first print take is located. The transfer is then made electrically to the direct positive print. The

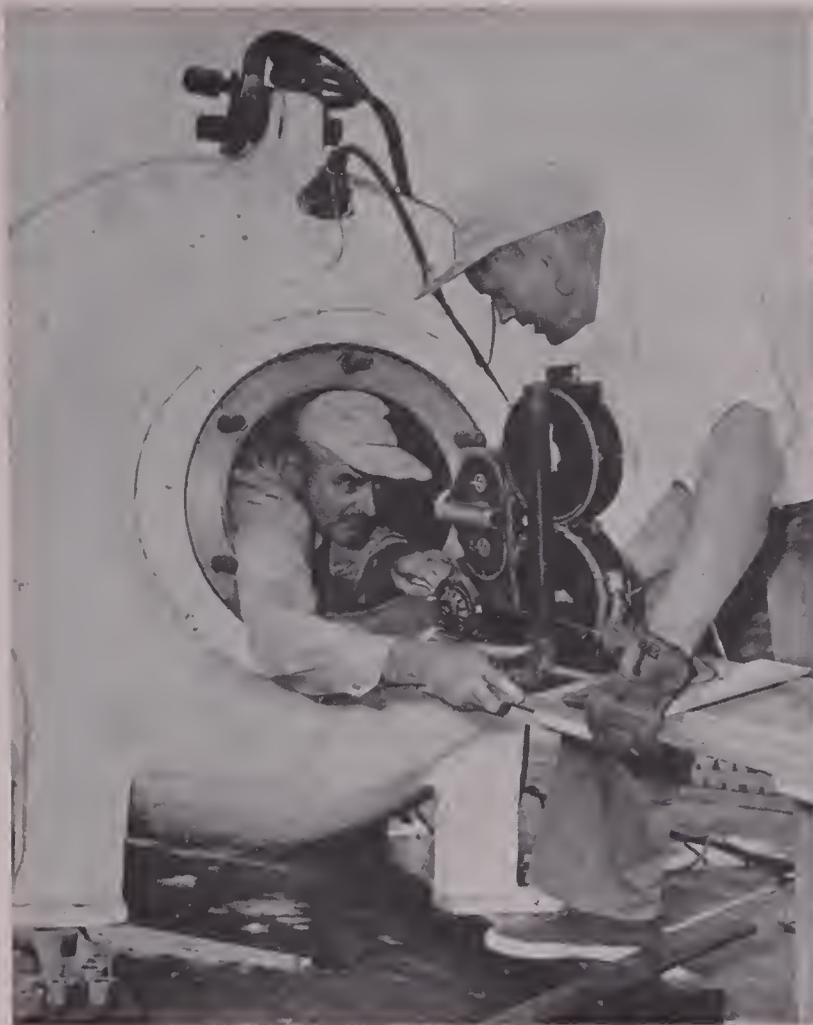
direct positive recording machine is equipped with a special photographic marking device that exposes the production number, scene number, the take number and the footage at one-foot intervals along the edge of the film. The sound recording is by the supersonic, direct positive, variable density method.

Two rack-mounted panel-type recording units are used for each scoring channel. The machines are used alternately; 1,000-foot lengths of 35mm. magnetic film are threaded on a head sync mark and fast wound down to the predetermined footage for the start of music. While the first take is in progress, the second recording machine is threaded. When a print take is obtained it is ready to go to the dubbing channel for dubbing without cost and delay of cutting or re-synchronization. The out-takes are subsequently erased. If playbacks are required, they are made instantaneously from the production recording.

Special transferring machines are used for the synchronization of sound effects and to supply the magnetic sound print for dubbing. Transferring replaces cutting and splicing. Magnetic sound effects from the library are transferred to 1,000 foot lengths of magnetic film in the correct position for dubbing. In other words, continuous 1,000-foot lengths of magnetic film replace the cut-together sound effects sound tracks now used in dubbing. In a similar manner original magnetic dialogue is transferred to 1,000-foot lengths of magnetic film so as to give a magnetic duplicate of the cutting print. Synchronization is established by the edge numbers previously mentioned. All dubbing work is to magnetic film, thence transferred to the release negative.

In the above it is to be observed that the only photographic negative used in the entire plant is the negative which is used for release printing. This not only saves the cost of the negative film but also eliminates the cost of processing same. It is also to be observed that there is no cutting or mutilating of the mag-

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SPECTRAL TRANSMISSION is just one of many problems encountered in initial underwater filming experiments by Dr. Otis K. Barton (left), shown here taking a special Bell & Howell underwater camera aboard his benthoscope prior to descent to ocean depths for another underseas filming expedition.

FOREWORD: This month we conclude Mr. Collins' article on Underwater Photography. In the July issue, the author described the physical basis of underwater photography by daylight, the varying intensities of light under water, and the attendant lighting problems. This month he describes the design of underwater motion picture cameras and the technique for cameramen filming with such equipment.—EDITOR.

IN ALL UNDERWATER camera equipment so far designed, the following requirements have been regarded as essential:

1. The complete camera in its housing must be easy to maneuver.
2. It should have slight positive buoyancy, both to assist in maneuvering and to guard against loss.
3. Lens stop, focus and operation controls must be brought out of the case for operation by the diver-cameraman when submerged.
4. The housing must be able to be opened quickly to enable the camera to be reloaded above the surface; this should be possible without dismantling the controls.
5. The housing must withstand the pressure at a depth of 100 feet without appreciable deformation. In addition, trials with a still camera have demonstrated that a movie record is essential if any impression of depth and any idea of relative distances and sizes in the picture are required. This is mainly because the field of view of any underwater camera is reduced three-quarters of its value in air so that, although the lenses covering the widest possible angle are always used, the field seen in one single exposure is small, and a series of pictures is essential to

Underwater Photography

— Part 2 —

By J. B. COLLINS, B. Sc., M.B.K.S.

Reprinted from *The Photographic Journal*, Vol. 90B, 1950,
Courtesy Royal Photographic Society.

cover a reasonable area. All objects will appear to be at three-quarters of their measured distance, but when estimated by eye behind a diving mask, conditions are the same as for the lens, and no correction to the estimation need be made.

The format or physical size of the image is decided by the conflicting requirements of ease of handling and quality of reproduction obtainable. Thirty-five millimeter film is very suitable since it enables compact equipment using standard camera movements to be designed, with which good quality reproduction can be achieved.

The movement chosen for the first underwater camera designed for this work was a "Morigraf" 35mm. spring-driven camera. This can be loaded with magazines containing 60 metres (196 feet) of film, giving a total running time of two minutes, but it will only run half the magazine on one winding of the spring, so that provision had to be made for speedily rewinding the camera without breaking the main watertight joint when returned to the surface. The stop and focus controls are led out by concentric shafts to the center of the back just above the footage indicator window. The operating lever is adjacent to the right handgrip. A watertight nut over the winding key aperture is located just forward of this.

The body of the housing is constructed of two chromium-plated thin copper spinings, soldered to flanges which are pulled together on a recessed rubber gasket by 12 bolts to make the main watertight joint at the center of the housing. The

(Continued on Page 280)



SUBMARINE housing for electrically-driven 35mm. motion picture camera described by author. Camera is Vinton model "K" movement which takes 200 foot film magazines, is fitted with 25mm. f/2 Cooke "Panchro" lens, and operated by remote control in handgrip.

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The American Cinematographer's 1951 competition is open to amateur movie makers of all nationalities and in all countries of the world for films made in either 8mm. or 16mm. width, black and white or color. Unlike our 1950 competition, you do not have to be a member of an amateur cine club in order to compete nor must films be sponsored or submitted through such cine clubs.

Next year, ten awards for THE TEN BEST FILMS will be presented to lucky amateur cine photographers.

Qualifications for entries: all films must be wholly amateur produced, except for any commercial production of titles and processing. All sound film entries must be wholly amateur-recorded. Film length is restricted to a maximum of 800-ft. in 16mm., and 400-ft. in 8mm. Contest closes March 1, 1951. No films should be submitted before December 1, 1950.

AMERICAN CINEMATOGRAPHER
HOLLYWOOD

DOUBLE-EXPOSURE can be more than a cinematic trick for the movie amateur, often making it possible for him to point up his picture more effectively than when using mere routine photography. Besides, use of double-exposure is a valuable film saver in that it frequently enables the cine amateur to compress action into less footage.

Reduced to the most elementary terms, double- or multiple-exposure consists simply of photographing a scene, stopping the camera and winding the film back to the starting point, then re-exposing it on some other action which will be seen superimposed over the first.

Shooting double-exposures is accomplished more easily with cameras which permit winding back the film. The Cine Kodak Special, Bolex and the new Pathe Super-16 are some of the cine cameras which provide for back-winding. For others, it is possible to have wind-back attachments installed. With these cameras, all that is necessary is to note the footage meter reading at the start of take No. 1. After the scene is shot, cap the lens and wind the film back until the original starting point is noted in the footage meter. Then remove the lens cap and re-expose the film for the second exposure, making sure that it runs exactly the same length as the first. Obviously, it will be necessary to note the footage mark at the end of take one as well as at the beginning to insure takes of equal length.

If yours is a camera not provided with a back-wind, you can still shoot double-exposures. You will need either a darkroom or a changing bag. Before making



GHOST IMAGES are among the simple double-exposure effects possible with cine cameras providing careful attention is given to lighting. Note how special lighting of girl—low light on face and effective side lighting—insures visibility of image against medium background.

DOUBLE-EXPOSURES —how and when to use them

BY BURTON TAYLOR

your initial shot for a double- or multiple-exposure, slip the camera into the changing bag, open it and make a small notch in the edge of the film at a convenient point—usually before film enters the gate.

Shoot take No. 1 in the usual way, keeping careful note of the length of the scene. Then return camera to the changing bag, open it, and wind back the film by hand to the starting point indicated by the notch. Re-thread the camera with the notch in the same position as before, close the camera and remove from changing bag, and you are ready to shoot take No. 2. Once you get the hang of it, you can make triple- and quadruple-exposures—more if you wish. One word of warning at this point—if you employ the notching method of marking the starting point on your film, always be sure to set the notch at the same starting point with relation to the film gate each time.

Using a darkroom, of course, all these steps may be done with greater ease—and visually under a safelight, if black

and white instead of color film is used. Regardless of the cinematic effect desired—be it a simple double-exposure or a double-exposure employing split screen or mattes, or a montage effect composed of several superimpositions on the same length of film, mastering the “wind-back” is the first basic step; for unless you can return the film to the exact starting point each time, there may be a distracting “jump” in the appearance of the subsequent image, or an overlap.

Now suppose you want to get what the professional calls a “split-screen” effect in which the background of the frame remains the same but your subject appears “doubled” or as twins in the scene. This effect calls for use of a matte which masks off one-half of the film frame, so that only half of it is exposed on each take. Some cameras, notably the Cine Special and some Bolexes provide for mattes to be inserted between the film and the lens in the camera. Tiny slots are provided in the camera to take

(Continued on Page 280)



EFFECTIVE triple-exposure montage filmed with a Cine Special camera that provides backwinding and through the lens focusing.



A SUNSET is an extremely contrasty subject to photograph. To successfully capture such scenes as this on movie film correct exposure is vital. Use a photo-electric light meter for this.

Filming Sunsets In Color

Here is the answer to that problem of how to get correct exposure.

By HERB STILES

OF ALL THE scenic shots which challenge the amateur movie maker, colorful sunsets demand and get more attention, perhaps, than any other subject. And no wonder. Never alike in pattern or color, sunsets provide the climactic highpoint for almost any outdoor film, inevitably supplying the fade-out scene that closes all good scenic, travel and vacation movies.

Not every cine photographer succeeds in filming sunsets in color with the anticipated pictorial results, for there is a trick to shooting this subject with color film that demands careful attention to both composition and exposure.

The sunsets we refer to here, of course, are those where old sol descends in the west midst a panoply of clouds bathed in a myriad of colors. How to capture this colorful scene on film in all its glory depends first on correct exposure, and here is where many filmmakers encounter trouble. Since movies of sunsets are made essentially of sun and sky, which is the light source, exposure guides

and charts cannot always be used with success. The only sure means of measuring the light for an exposure of this kind is the photo-electric type exposure meter.

The height of the sun above the horizon, amount of atmospheric haze, the type of clouds in the sky — light, heavy, etc.; and whether the picture is to include only the sky, the sun and sky, or the afterglow following actual setting of the sun are factors which affect the light on which you will base your exposure.

The thing to remember is that a sunset is an extremely contrasty subject to film, with the sun many times brighter than any dark shadows appearing in the foreground. No color film is capable of recording both the sun and detail in foreground objects in full value at the same time. To expose for the foreground in a sunset scene, the sky and sun obviously will be greatly overexposed. Conversely, exposing for the sun and sky will result in foreground objects registering opaque or in silhouette — which is the effect most desired in a sunset shot.

Of course, not every movie maker will agree as to what constitutes the perfect exposure for a sunset. Some like fully exposed sunsets while many prefer the somber, darker result that follows slight under-exposure. But most photographers agree that the latter is more dramatic pictorially; so if its "oh's" and "ah's" you want, stay on the under-exposure side.

It is the sky and the colors in the sky which we most desire in the picture. The foreground objects (and these certainly should be prominent for compositional qualities, as we shall presently explain) are secondary to exposure. So if the sky is our main objective, then best photographic results will follow where a meter reading is taken of the sky. Aim the exposure meter at that point in the sky occupied by the sun, whether completely or partially obscured by clouds; and remember that any slight under-exposure only adds to the effectiveness of the shot.

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Leading film producer, Irving Hartley of Hartley Productions, N. Y. C., shooting a scene at Chichicastenango, Guatamala, for the Pan American World Airways color travel film "Wings to Mexico and Guatamala".

Here is the Maurer 16 mm. at Chichicastenango!

Mr. Irving Hartley, top-flight cinematographer and producer—like dozens of others in the field—knows, uses and recommends the Maurer 16 mm. camera *wherever* and *whenever* excellent color photography is required, for the following reasons:

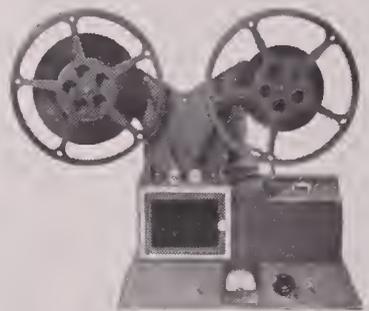
Its **VERSATILITY** first of all, makes it ideal for all sorts of color work, its accuracy, precision high power focusing system and its large clear glass direct-through-the-lens viewing system insure excellent results at all times.

Its **DEPENDABILITY**, the result of years of rigid testing and improvement have made it ideal for below freezing or torrid conditions—the dependable camera for all field work.

Its **UNIQUE FEATURES**, such as the 235° *dissolving* shutter, allows you to shoot with one-third less light, and with automatic fades and smooth lap dissolves made right in the camera.

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DOUBLE - EXPOSURES

(Continued from Page 277)

the thin metal mattes which often are of various shape and design. The use of mattes behind the lens insures utmost accuracy and no line of demarcation between the two images when the film is screened.

The alternative is to use a matte box which holds mattes or masks some distance ahead of the camera lens. Here, accuracy in alignment of the matte box and mattes is highly important, otherwise errors will occur which will show up disappointingly on the screen. Do not attempt to achieve the split-screen effect by masking the front of your lens. Such masking would be too close to the lens, resulting only in reducing the amount of light passing through. In *front* of the lens, the masking must be placed several inches ahead of it. With some cameras, it is possible to remove the lens and insert mattes immediately in front of the film gate; but where this may interfere with proper seating of the lens, when it is returned to the camera, it should be avoided, as out-of-focus pictures will result.

For a simple two-exposure split-screen shot, two mattes are required — one for each side of the film frame. In some instances and where the division is exactly down the center, only one matte is necessary — same being reversible for use on the opposite side. It is important that edges of the mattes be smooth.

Making the first shot is simply a matter of inserting the matte, shooting, backwinding the film, changing mattes and shooting again. The important thing to remember in using mattes behind the lens is that the lens both inverts and reverses the image on the film. Therefore to matte out, say the right-hand side of the picture, the matte must cover the *left-hand* side of the aperture.

In making split-screen shots, it is essential to use a tripod for the camera, (the sturdier the better,) for the camera must be in identically the same position for each shot of the multiple-exposure; otherwise the two halves won't match. It also helps if you choose your camera setup so that the matte-line coincides with some definite line in the scene, as, for instance, the line formed by shooting diagonally into the corner of a room. The action must naturally synchronize, too. The simplest way to assure this is to rehearse carefully, timing both rehearsal and the shooting by slow, deliberate counting. If a stopwatch or electric timer is available, use it.

This timing is essential in making composite shots such as that of a person sitting, reading his paper, when suddenly

the door opens and in walks the same man. The person seated must know exactly when to look up and see "himself," while the man who enters the door must also know when to react to his double's surprise. Thus, if the person seated knows that at the count of five his double will enter the door and that at the count of nine, he is to look up at him and register surprise, etc., the action will be fully synchronized and have a professional effect on the screen. This synchronization is best regulated by an assistant audibly counting off the seconds off stage.

"Ghost" images can be produced by double-exposure, but without resorting to use of mattes. The ghost effect is a simple double exposure, so that the background will show through the tenuous apparition. A typical ghost image shot is illustrated here. Note how special lighting was employed in shooting the apparition, a woman, to make her stand out in a third-dimensional effect from the background. A spotlight was placed low to throw light upwards into her face, and there is ample side-lighting, both left and right.

While many movie amateurs have encountered opportunities where double exposures would have enhanced their story films, here are examples of plot action where such effects may be employed to telescope a lot of story telling into a minimum of footage or to show more or less parallel action suggested by the basic scene: Let's suppose we are to show a girl, whose sweetheart has gone to the mountains on a fishing trip, reading a letter from him telling of his experiences. We can double expose shots of his activities in a corner of the film frame — showing her reading the letter, and her sweetheart enacting the incident about which she is reading. Here is how it is done: When filming the part of the scene showing the girl reading the letter, the upper corner — right or left, whichever best suits the situation — is masked off with an irregular matte. This scene is then wound back in the camera, (with the lens capped, of course,) the corner matte removed and a matching matte employed to mask off the girl, etc. The camera is then set up and focused on the action of her sweetheart (fishing, hiking, or riding, etc.,) so that this action fills the area of the film frame previously blocked out by the first matte.

Obviously this calls for a method for observing how this fragmentary scene will appear on the film, and for this a method of sighting through the lens is essential to best results. The Cine Spec-

ial, both the 8mm. and 16mm. Bolex, the Filmo 70DA, the Victor Model 5, and the Pathe Super-16 cameras — to name a few — afford this alignment feature. Homemade shiftover devices and non-parallax viewfinders will enable owners of other cameras to obtain fair accuracy in lining up the secondary image of a double-exposure of this type.

Another case is where it is desired to show what a person is thinking or dreaming about — simply superimpose it above the person shown, in the upper part of the film frame, using the matte procedure outlined above.

Split-screen double-exposures can be employed for other purposes than those already described: in introductory titles, in which the title text occupies one-half of the frame, and the person introduced the other; to show two persons talking on the telephone; or to show the action of two persons in adjacent rooms, with the room partition running down the middle.

By simply multiplying exposures without resorting to use of mattes, interesting montage effects can be achieved, such as for instance the example shown in accompanying illustration.

Don't feel for a minute that because only certain cameras have been cited above that double-exposures cannot be made with others. No, the imaginative cine photographer with patience and a flair for gadgeteering can produce effect shots with the simplest 8mm. or 16mm. camera, following the data given here. Accuracy, of course, is a prerequisite — accuracy in making the mattes, in inserting them in the camera or matte box, in lining up the various takes for the composite shots and in timing. Such work is an essential step in the amateur's progress toward advanced cine photography.

UNDERWATER PHOTOGRAPHY

(Continued from Page 274)

camera movement and all controls are carried on the back dome to reduce difficulties due to distortion of the shell under pressure, and avoid any dismantling of the interior when loading with a fresh film magazine. The excess buoyancy of the complete camera is adjusted to half a pound by lead weights attached to the twin keels, which are arranged to make it float upright and on an even keel to prevent the diver-cameraman having to apply a correcting torque to keep it trained. A bead and frame sight is provided on the top of the housing, but it has been found that it is rarely necessary to use this, as it is usually possible to train the camera sufficiently accurately

without it. The lens used is an f/2, twenty-five mm. focal length "Kinoptik" which was found to give very good definition and coverage. The complete housing with camera weighs 47 pounds (including keels) in air, and is 18 inches in overall length and 12 inches in diameter.

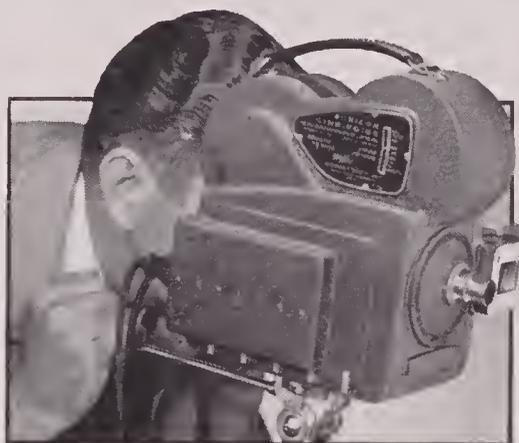
A second camera was designed using an electrically driven Vinten model "K" movement. This can be loaded with 200 foot magazines the whole of which can be run without stopping, giving a running time of two minutes, or twice that of the spring-driven camera. A view of the housing is shown in Fig. 2. General construction is similar to that of the spring-driven model, but the twelve small bolts have been replaced by four hinged bolts with large nuts (tightened with the aid of a key). This considerably speeds up the reloading process, so that the speed of working with this camera, when a number of successive sequences is required, is greatly increased. The lens used is an f/2, twenty-five mm. focal length Cooke "Panchro" and the stop and focus controls are also brought out by concentric shafts to the back of the body. In this case, however, the focusing shaft carries only an indicating dial, focus being adjusted by a lever adjacent to the right handgrip. Thus it is unnecessary for the operator to let go the camera with one hand to adjust focus during runs when the distance is changing.

The running control is by the other handgrip, and the movement is driven from six miniature "Nife" batteries, which will drive through 17 magazines of film before the speed begins to drop seriously. The camera movement together with its battery is again mounted on the rear dome on a plate which slides on rails in the fore-part. The total weight in air is 45 pounds (only light fin keels being necessary in view of the weight of the battery), the overall length is 19 inches, and diameter 10 inches. The air connection seen at the front of the housing permits pressurization if the camera is to be taken below 100 foot depth, as the specially shaped re-entrant fore-part would otherwise probably distort seriously with the greater external pressures.

A third camera (illustrated in the July issue), using 16mm. film, was designed with a view to producing an instrument of small bulk and weight for underwater use where the loss in definition implicit in the smaller format would be acceptable, and also to enable standard "Kodak" magazines to be used for trials with color film. The housing is made of thin steel tube, "parkerized" and white enameled, with the front spun dome held on to the main body by six hinged bolts

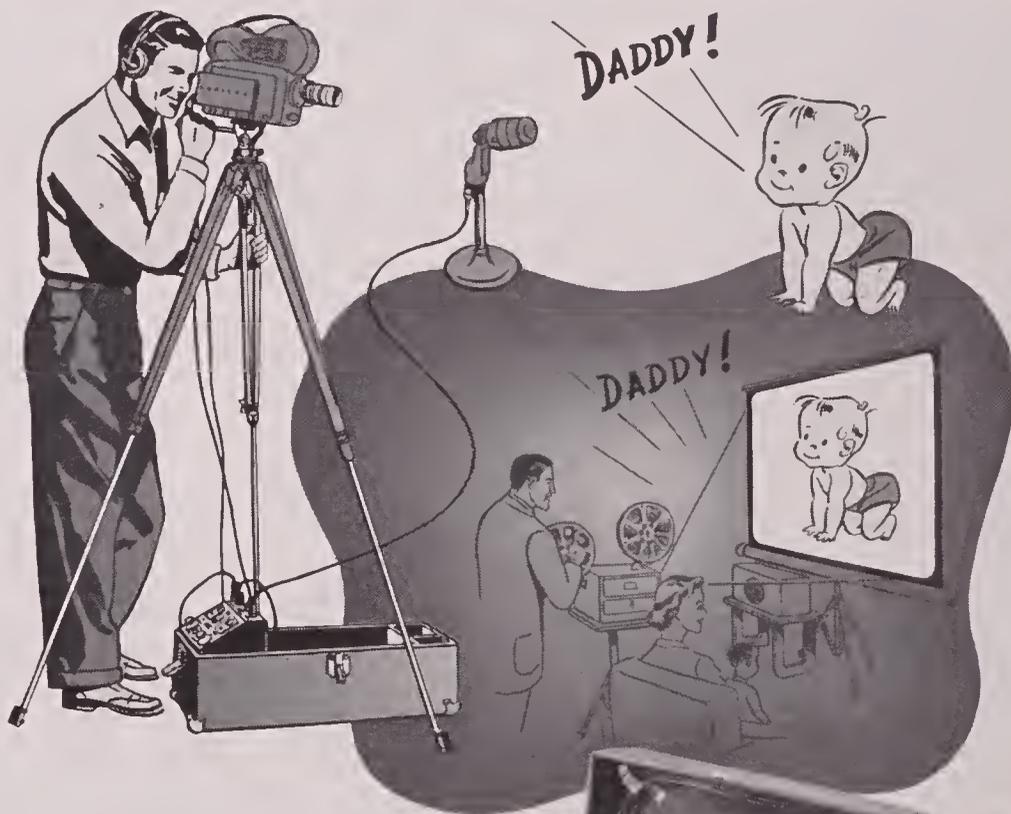
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and wing nuts, the joint being made watertight by a recessed rubber ring as with the larger camera housings.

The camera, which is mounted on vertical plate sliding in top and bottom rails in the main body, is an electrically driven gun-sight camera which can be run at 16, 32, 64 frames per second, and which has been adapted to take an f/2, 16mm. focal length "Xenon" lens or an f/1.5, twenty-five mm. "Xenon." At present, no controls for the lens stops or focus are brought outside the housing, so that the lens has to be pre-set and used under constant lighting conditions and at a constant distance for each run. These limitations are not too serious in view of the greater depth of focus of the short focal length lenses, and the fact that color film under water needs the widest aperture even under the best lighting conditions.

A control system is now being designed, however, to permit at least the focus to be adjusted below the surface. The running control switch is fitted into the right handgrip. No keel is fitted to this camera housing, its total weight (with 12-volt "Nife" battery) being 25 pounds. The overall length is 18 inches and the diameter 7 inches.

It cannot be too strongly emphasized that development of this underwater photographic technique has depended in great measure on the parallel development of suitable technique of free diving,

and to assist in this work a trained underwater swimmer and diver was attached to the group by the Director of Boom Defense and Salvage. It was obvious from the commencement that the standard helmet diving technique would be quite unsuitable, due both to its restriction of movement and to its inevitable consequence of clouds of mud or sediment stirred up as the diver moves his weighted feet. A breathing set using compressed air carried in cylinders on the back was developed. In this apparatus the high pressure air (at 1,800 lb./sq. in.), is led through a reducing valve to a "demand valve" which supplies the air through a mouthpiece according to the suction of the diver's lungs. Expired air is breathed to waste through a spear valve situated, together with the demand valve, high up on the diver's back so that the exhaust bubbles do not interfere with his vision or photography.

The duration under water of this equipment is at present limited by the size and strength of the compressed air cylinders available, but a trained diver can usually remain at a depth of 60 feet for half an hour; this figure, however, varies greatly with the amount of activity during the time, and is very much less for a diver inexperienced in "self-contained" technique. (The set is seen in use in the illustration accompanying part 1 of this article, which appeared in the July issue.—EDITOR.)

It obviates the customary time-consuming practice on location of dismounting the camera from its bulky blimp at time of changing each setup. Instead, the camera car with equipment and crew intact is simply moved to the new setup, ready to shoot, saving both time and manual effort."

This Dye-Cooley development fits in with the current trend for more economy in Hollywood production. In this instance it served as a companion piece to two other developments that are bringing about profound changes in the technique of location filming.

One is the extremely compact, lightweight and portable magnetic tape recorder, which affords direct dialogue recording of top studio quality, even in the most rugged and near-inaccessible locations. The unit used on this production weighed but 150-lbs. and with bulk approximating that of a large suitcase. It replaced the seven-ton truck sound recording unit formerly necessary for location production.

The third item is a recently developed lightweight location generator unit, self-contained on a medium truck chassis. This 1500-amp. generator is powered by a lightweight aircraft engine and provides abundant power to light the largest night exteriors for color. A similar 600-watt generator unit enabled director of photography Rennahan to set something of a technical milestone by photographing action for the picture aboard a moving train, complete with full sun-arc illumination of the car interiors, and with direct dialogue recorded simultaneous with the action. With ample interior illumination to balance with the outdoor light coming through the car windows, Rennahan thus eliminated need for process backgrounds or cumbersome studio match-up settings for a marked savings in production costs.

Of all these innovations, it is the uplift camera car, Rennahan believes, which promises the greatest benefits to production of films in color, greatly widening the scope of Technicolor photography, as it does, by permitting use of the fully blimped camera in "impossible" locations.

Encouraged by the initial success of the first uplift camera car, Dye and Cooley have completed a second and are in production on a third, with reason to hope that their invention may rate Academy honors next spring, by which time the whole industry may be reaping the benefits of its use.

As many as 8 cameras have been used to shoot a single scene in Rome for Metro-Goldwyn-Mayer's "Quo Vadis," first Technicolor picture filmed there.

BOOM SHOTS ANYWHERE

(Continued from Page 270)

remainder of the takes shot without sound. Now we can leave the blimp on the camera, move in to any location spot and, shoot sound and picture, saving the studio considerable expense. Even more important is the fact that authentic background sound can be recorded in these 'inaccessible' locations, thus lending greater realism to the scene."

Considerable filming of "The Great Missouri Raid" was done away from any road or other smooth surface. Typical settings included a steep bank of the swift Stanislaus river, huge boulders beside the river, a forested mountainside, a farm and a rural railroad right of way. In the latter, for example, the uplift camera car was driven directly to the location and right up to the tracks. The switch was thrown on the hydraulic hoist and the camera elevated to the right height for the shot. The scene was set up and photographed in less time than would have been required to erect a parallel for the camera, had the uplift camera car not been available.

The hydraulic lift which provides the sturdy platform for the camera and operator, is raised or lowered by power furnished by the car's motor. The camera may be operated at ground level or at any point up to the maximum height of fifteen feet. The camera itself may readily be panned in a 280-degree arc, increasable at full height to full 360-degrees, and may be tilted up or down a maximum of 15-degrees for angle shots.

Wide tread tires insure positive traction over any kind of terrain and lend stability to the elevated camera platform when camera is in operation. Effective boom shots may be made as the camera platform descends, held in check by the hydraulic cylinder. Only when the platform is to be elevated is it necessary to operate the car motor to drive the hydraulic pump.

Commenting on the car's efficiency, director of photography Rennahan said: "In every instance the uplift camera car proved its unusual worth. It makes possible completely fluid camera operation.

FILMING FORDS

(Continued from Page 272)

films. Thus, large sets were used and the pictures filmed on a standard Hollywood sound stage. Long tracks and larger camera booms were employed. Some of the largest cycloramic backdrops were utilized for the backgrounds which were photographed at General Service Studio.

When first I undertook the photography of films for television, I thoroughly studied the negative factors of the medium, embracing live, film and kinescope shows, average home reception qualities, and the picture quality as received over tubes of various shapes and sizes. Thus it was that one of our first steps was to etch our camera finder glasses closer on the sides, top and bottom so that none of the important details in the picture would be cut off. It was important that Fords, and especially the pictorial detail which we emphasized with our camera, register solidly with the nation's TV viewers.

The second important negative factor I found was the lack of definition of many TV films as viewed on home video sets. This situation compared with the lack of definition in background screens in relation to foreground action in feature film production. In the studios, we can overcome this bugaboo by shooting on background-X negative with its extra fine grain, and develop the film for best possible definition. Most studio background plates are shot out-of-doors in sunlight. So we combined the two studio alternatives—fine grain negative and plenty of light—and applied them to our TV film production. Probably for the first time, mammoth brute arcs were employed in photographing scenes for TV films.

Pathe laboratory chief George Crane supervised the development and printing of our dailies with such care that NBC later said the results were the best they had ever seen on a closed circuit.

For the first fifteen films in this Ford series, we had to adjust ourselves to a new photographic routine—that of making shots in color alternately with those in black and white. We merely switched from BGX to Ansco Color and changed our lens stops. Standard Mitchell 35mm. cameras were used in both instances, of course. The scenes filmed in color were later edited into minute-movie presentations for showing in theatres. The print order for each minute-movie alone was over 750—greater than that of most major feature films.

To glamorize the color scenes I used a huge sequin curtain to backdrop the subject of our filming—new 1950 Ford

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cars. The various models were mounted on a raised, revolving platform. Usually we focused on the car from high in the rafters of the sound stage, then zoomed down with the camera boom to a close shot of the colorful and attractive heraldic shield on the nose of the car.

Color combinations were carefully chosen to enhance the color schemes of the various cars. For a chartreuse convertible we bathed the sequin backdrop in purple light. The grey two-door was backdropped with blue-green light, while the metallic-blue fordoor was glamourized against a backdrop of gold lighting.

No waxing or buttermilk was used on the bright metal trim of the cars, with exception of the bumpers. From past experience in color photography I learned that car bumpers invariably kick a reddish hot spot. So I touched up likely flare spots on the Ford bumpers with a blue paste. Thus the metal shone like new, without a hint of flare.

U.P.A.'s cartoon experience served a good purpose in dreaming up some novel shadow effects for the backdrops against which the Fords were filmed. In one instance a car was photographed rotating slowly before a backdrop on which the artistic shadow of a Monterey cypress was projected by the light of a powerful open arc lamp. For others we used a shadow-graph of the huge shell of the Hollywood Bowl, with our sequin backdrop furnishing the effect of a star-lit background—an effect that required careful lighting and placement of the camera. We improvised new and unusual camera boom movements to produce spectacular visual presentation of the Fords thus staged. This required considerable rehearsal with equipment and technical crew, but the final results easily justified the time expended.

Because of the highly reflective surface of a new car, the placement of lights for each shot became quite an undertaking in order to minimize flare and at the same time insure that any change in the lighting did not wash out our shadow effects on the backings. Both problems were minimized by mounting our brutes at considerable height.

After all interiors were completed, we hit out for the open road to film exteriors. One scene called for a close shot of a mother and child riding in the comfortable rear seat of a Ford sedan. For this we rigged an Eyemo camera with a 24mm. lens outside the car. To balance the daylight coming through the car's windows with the reflected light in the interior, we covered the windows with several ND filter gels, supplied by Mole-Richardson Company. To keep the filter gels from wrinkling, they were smoothly cemented to surface of the glass. Small

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reflectors supplied fill light for the mother and child.

Photographing this series of advertising films for television proved several theories—one, that television has already grown up to long pants age and offers cinematographers opportunities equaling those in the production of theatrical films. In this instance, the budget was such that we earned the same rate of income as for a feature film. Light volume and stage area employed was about equal that for the average production numbers of a color musical film. Arc lighting assisted us in obtaining the top quality photography demanded by television.

An interesting sidelight was one of the pre-production steps employed by director Gunther Fritsch in scouting locations for the exteriors. Using a Polaroid-Land still camera, which produces completely developed prints of snapshots in the space of a minute, Fritsch made photos of likely locales, then mounted them all on a large sheet of paper, story-board fashion. From this layout we planned our photography and saved considerable time and expense that might otherwise have been expended had the entire crew traveled in search of location sites.

FILMING SUNSETS IN COLOR

(Continued from Page 278)

Now there is one thing that can mar a good sunset shot and that is halation resulting from shooting the sun not screened by clouds. The sun should be entirely under clouds during the time the scene is filmed, and as the cloud mass may or may not be moving in the sky, this need not pose a problem as the sun itself in its movement will ultimately slip behind the clouds to insure a satisfactory take. A good rule to follow is to wait until you can look directly at the sun without squinting, then calculate exposure and shoot.

Numerous exposure guides have been published at one time or another setting forth suggested lens settings for filming sunsets in color under various conditions and at different periods within the sunset interval. Recently I saw one such chart that recommended a stop of $f/2.8$ with daylight Kodachrome in filming a sunset anytime between the interval of 15 minutes before sunset and time sun disappears below the horizon. This would naturally limit the number of cine photographers who can shoot sunsets in color, as not too many have cameras with lenses as fast as $f/2.8$. My experience has

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been that, while it is essential to use a light meter to determine exposure for a sunset shot, most shots can be made with regular Kodachrome at approximately $f/4.5$ with satisfactory results.

The most picturesque marine sunsets prevail, not when the sun is actually setting, but when about 5 to 10 degrees above the horizon—or during the last 15 minutes.

The coloring of sunsets varies with the locale. Many sunsets over the ocean lack the brilliant red and orange coloring we find in the sunsets in the western United States. This is because dust par-

ticles are often absent in the air over the ocean.

But it is in the cloud pattern itself that often determines the pictorial qualities of a sunset. The composition of your sunset shot will require consideration of the cloud mass obscuring the sun as well as any objects on land, either in the foreground or on the horizon. Making such shots near the sea, the first step should be to place the camera so it will pick up some foreground object typical of the locale, such as pier pilings or the mast or rigging of a ship, using these objects to frame the scene. On the desert, cactus and joshua trees may be silhouetted



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against the sky for effective framing of the scene. Mountain sunset shots are best framed in a setting of lofty pines and mountain peaks.

Take time to move around with your camera, observing the scene through your viewfinder, until the best composition appears. Thus you will secure not only the grandeur of color in the sky, but the compositional completeness of surrounding objects which not only frame the scene but lend it depth and realism.

Because the grandeur and formation of clouds at sunset constantly change as the setting sun descends, a highly effective method of recording a sunset is to shoot its progress a few frames at a time. This may be done by exposing normally about two feet of film at intervals of two or three minutes. Readers who own cameras with single-frame exposure release can make an effective record of a sunset by exposing one frame at intervals of every 30 seconds or more, depending upon the speed of the changing cloud formation and color. On the screen, the

full scope of the sunset is telescoped into a single scene only a few minutes in length.

A "sunrise" shot may be improvised following this same method, except that the camera must be inverted, or turned upside down—the scene strip being turned end for end after processing and re-spliced into the roll. For this a special bracket is required to hold the camera solidly in the inverted position so that it cannot be jarred when the starting button is operated for the interval exposures.

A colorful sunset makes a logical closing shot for scenic films such as travel and vacation movies, and should end in a fadeout. This can be done by gradually closing the lens diaphragm, then placing one hand over the lens to completely close out the light. For the "sunrise" shot, the fade is made in the same manner but becomes a fadein on the screen.

In making the stop-motion and fade-out shots described above, it is essential that the camera be mounted on a rigid tripod, for any jarring of the camera during the exposure will detract from the shot.

REALISM WITH A MASTER'S TOUCH

(Continued from Page 271)

proves in this picture that a craftsman who knows his tools can combine realism with the kind of technical finish one has come to expect of Grade A studio product.

To Rosson, who for years has been considered one of the top "glamour" cameramen in Hollywood, the lighting requirements of "Asphalt Jungle" presented a challenge and called for a complete departure from anything he had ever done. Accustomed to having to consider the "best side" of this or that star's face, as well as the necessity of eliminating double chins, crows feet and the ravages of stellar hangovers, it was a refreshing experience to be given a cast of good actors who were not name stars and who did not have to be glamourized on the screen.

With the exception of Maryln Monroe, who plays the part of a bush-league Lana Turner and is therefore given the full benefit of glamour lighting, all of the players were photographed as realistically as possible. In the case of the feminine lead, an exceptionally attractive actress named Jean Hagen, it was actually necessary to play down her good looks so that they would not detract from the drama of her characterization.

In lighting the picture, Rosson took into consideration the fact that the un-

derworld has a peculiar glamour all its own—a harsh, sinister, ominous quality that warns of danger lurking in every shadow. He lighted each set to simulate light sources natural to the particular locale, and in so-doing he let the shadows lie where they would naturally fall. This meant that instead of having to light his players so that they would be fully illuminated throughout the entire pattern of action in the sequence, he could light the set with perfect realism and let the players play in and out of the light as they would in the actual situation. In some cases the actors went completely into silhouette, an effect which added greatly to the drama of the sequence.

Almost the entire picture was filmed with a 35mm. lens in order to achieve depth-of-field as well as dramatic perspective. The depth factor assumed unusual importance because director Huston staged much of the action with players prominent in the foreground, but with important action also transpiring in the background. In order to hold both of these widely separated planes in sharp focus, it was necessary to use unusually high light levels and stop the lens down for greater depth-of-focus. The trick in this type of filming is to match a scene shot at f.2.8 with one shot

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at f.5.6 for the same sequence—retaining, for example, the same degree of luminosity in the walls of the set while keeping the key of the lighting identical in both shots. When a lens is stopped down in this fashion there is a natural tendency toward increased contrast, and some skillful calculation is required to keep all of the light values in balance to match scenes shot at a wider aperture.

Rosson used low camera angles extensively in "Jungle" in order to emphasize the dominant character of the underworld personalities portrayed, and such shots were particularly effective in sequences where the action is played from planes far back on the set on up to close-ups. An added problem in such shots was the fact that ceilings had to be used on the sets, thus making light placement more difficult.

The process of *latensification* was widely employed in this film in order to permit realistic lighting of night exterior scenes. With this method it is possible to photograph scenes with a great deal less light, or by means of light natural to the locale. In the case of the night exteriors it was possible to shoot with far

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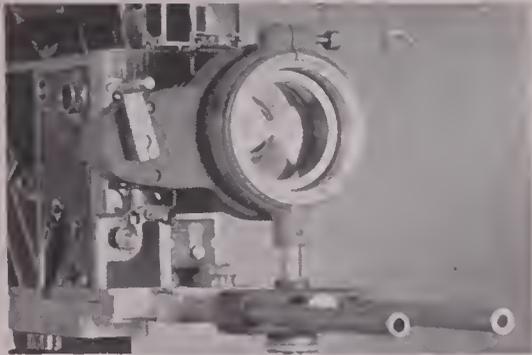
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less illumination than would ordinarily have been required, and the effect is more realistic.

In one instance, latensification permitted the filming of a sequence that otherwise could not have been captured on film. Part of the chase takes place through a tunnel approximately 300 feet long, three feet wide, and six feet high, with smooth concrete walls and no recesses in which to hide lights. The only illumination comes from small bare bulbs used to light the tunnel, but these were sufficient to get an exposure when shot with film that was later latensified.

After all of the harshly dramatic low-key interiors it was a welcome break for Rosson to go to Kentucky to film the beautiful sun-lit horse farm which is the locale of the picture's final sequence. It is in a meadow, surrounded by peacefully grazing offspring of War Admiral, that the protagonist finally dies, thus fulfilling the moral of the story and the demands of the Johnston Office.

A veteran of more than 30 years in motion pictures (the last 20 of which have been spent at MGM), Hal Rosson has filmed many outstanding successes. Among his own favorites are: "Captains Courageous," "The Scarlet Pimpernel," "The Ghost Goes West," and all of the Clark Gable pictures. He re-

cently completed Gable's latest, the as yet-unreleased "To Please a Lady." Prior to the war he filmed many pictures in England for Alexander Korda as well as for MGM, including "Things to Come" and "A Yank at Oxford." He is now preparing "The Red Badge of Courage," a Civil War story in which he will again team with director Huston.

In approaching a screen story he reads the script carefully, mapping out the camera's role in each sequence, as well as in the establishment of mood and style for the entire picture.

"I think of the camera as a member of the cast—an actor," he explains, "and as such it must play its part and give the finest possible performance. It is my job in directing this particular actor to get the best from it. 'Jungle' was one of the most interesting pictures I've ever been privileged to work on, and it was made especially pleasant due to the unusual teamwork and enthusiasm of the cast and crew. Each evening, all of them voluntarily stayed an hour or so late to crowd into the projection room and view the previous day's rushes. How do I feel about the picture? Well, if in 20 years someone asks me to name the favorite pictures I've worked on, I'm sure that 'Asphalt Jungle' will stand right at the top of the list."

KEEPING UP WITH PHOTOGRAPHY

(Continued from Page 266)

arranged as to produce the minimum sound reflection. The echo-free room reportedly also will be used in testing motion picture cameras in sound blimps of various design, with the object of developing lighter, more compact blimps.

Africa is to have a modern studio for production of motion pictures. Construction work has already started on Africa Film Productions' new 30-acre studio at Parkmore, Johannesburg. The first section — the laboratory block — will be completed by the end of the year and the studios are expected to be ready for full-schedule film production by 1952.

Photography has become a precise science capable of supplying data as dependable as that obtained in other physical sciences. An unusual industrial use of photography is the application of an ordinary camera and camera technique to estimate the volume of pulpwood in stock piles. By using a high contrast photographic material, a flat car full of wood is photographed. Spaces between the logs are produced as black areas. The faces of

the logs become white areas. A special photo-electric scanning machine is then used to evaluate the amount of light areas to the dark areas and, assuming the length of the logs to be standard, an accurate estimate of the total volume of wood can be obtained.

A color film, exposed at 3,000 frames per second — 120 times faster than ordinary commercial film — was recently demonstrated in England. This new, super-speed with color film has been made possible by the development of a new form of mercury-cadmium lamp which can be overloaded to produce, for a few seconds, a greater light intensity than anything achieved before.

India's first motion picture in Ansco Color, produced by modern technical equipment, has been completed. Previously, all 35mm. color films made in India were colored laboriously by hand from the original black and white negatives. According to an Indian motion picture executive, this is the first time that any 35mm. color printing has been

made from a color film, the original of which was filmed entirely in India by an Indian motion picture producer.

•
A 16mm. dual-recording camera capable of producing either variable-area or variable-density tracks has, according to Foto-Kino-Technik, been developed by a German engineer, Ludwig Koch.

Camera has a similar appearance to normal 35mm. recorders, with 400-foot magazines, carrying single-perforated stock. On the left-hand side of the camera is the driving motor of the synchronous type, and on the right the control switches and meter.

Film is recorded on a drum, carrying a heavy flywheel, driven through a filtering system to insure consistency of film speed. Shafts and rollers run on ball-bearings, and the noise of the camera is reduced to a minimum.

Koch experimented with various recording systems — the glow-lamp, the high-pressure mercury lamp, and the oscillograph. A different system however, was finally adopted, but what it is, is not stated. The method of changing from variable-area to variable-density is not explained, although adjustment of a mask is mentioned, which can be observed through a microscope. Monitoring is effected by means of a photocell and amplifier.

A three-channel mixer is provided, together with a main amplifier and gain control, and a monitoring instrument.

MAGNETIC RECORDING

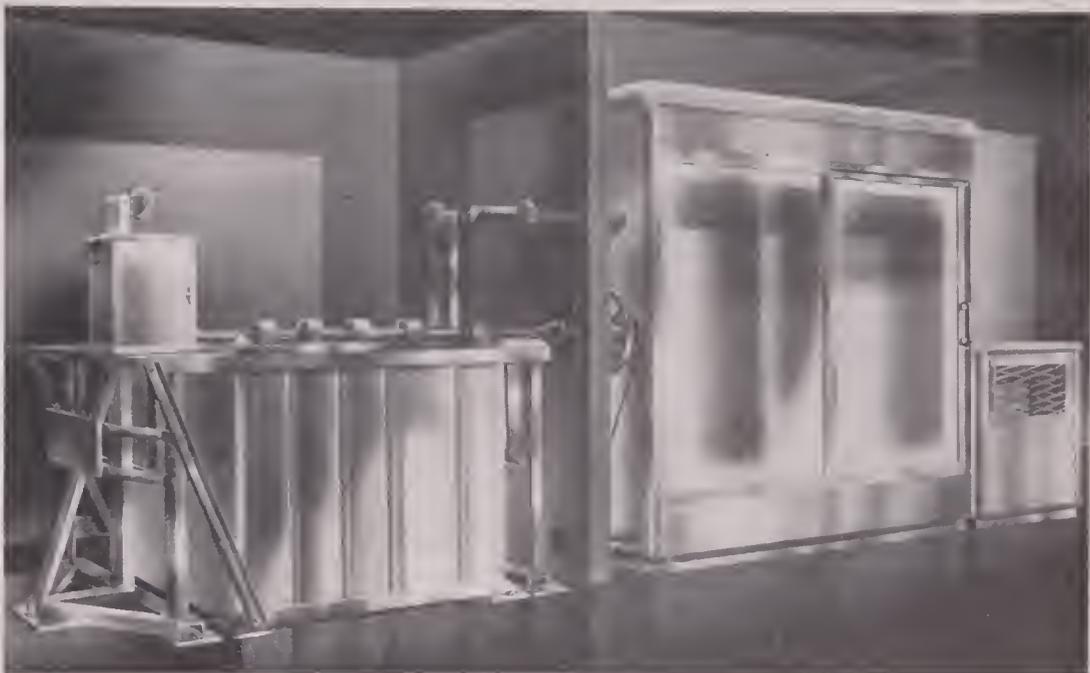
(Continued from Page 273)

netic film, thus it may be used many times.

In the scoring and dubbing procedures rehearsals are made on magnetic film, thus the first satisfactory rehearsal is the printed take.

Important in this consideration is the fact that the technique and each piece of equipment has been worked out so as to become a part of an overall system. The approach to magnetic recording should be on this basis.

A complete technical description of the equipment and methods used was presented at the Chicago Convention of the Society of Motion Picture and Television Engineers and will be published in the Journal of that Society under the title "Motion Picture Studio Use of Magnetic Recording." Ryder 16mm. Services, Inc., is being expanded to handle 35mm. as well as 16mm. magnetic sound recording, and welcomes the opportunity to be of service to anyone interested in this phase of motion picture production.



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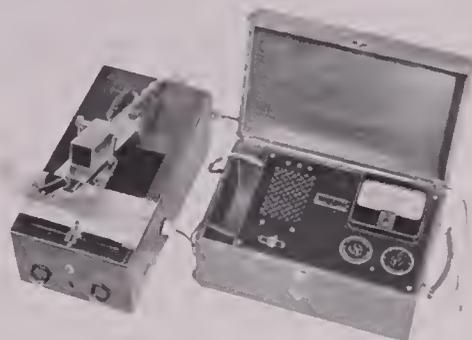
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WHAT'S NEW

in equipment, accessories, service



Photovolt Densitometer

A precision photo-electric sound-track and color densitometer is announced by Photovolt Corp., 95 Madison Ave., N.Y. Instrument affords exact measurement of density on the sound track of either 16mm. or 35mm. motion picture films. It gives accurate evaluation of sensitometric tablets and the tonal analysis of color films. Priced at \$395.00, manufacturer's bulletin No. 245 is available free which gives further data.

Goerz Rectagon Lens

Now available for all-purpose photography is the new Goerz Rectagon lens with a rated speed of f/6. Elements are actually over-size to admit more light and give increased illumination to the edges of the large field. Front and rear elements are said to be almost twice the diameter of the largest effective aperture.

Rectagon is an unsymmetrical lens system, which was made for precision aerial mapping, requiring high resolution and no distortion over the entire field. Formula is such that lens can be used from infinity focus down to 1:1, where the image equals the size of the object. At present time a 3-in. focal length is available either in iris barrel or fitted to shutters as ordered. Field coverage is 90 degrees.

Magnetic Sound Reader

Moviolas for 35mm. sound film may be converted for reading magnetic sound tracks, according to Moviola Manufacturing Company, Hollywood, which company has announced a magnetic sound conversion for present Moviolas, permitting them to be used for either optical or magnetic sound tracks.

Modified machines are converted to read magnetic sound tracks on 35mm. film, although they can also be made to read split-35mm. (17½mm) tracks at slight additional cost.

Magnetic sound tracks run through the Moviola with the magnetic coated side of the film up. Pickup head can be mounted in any position across the film, in order to accommodate the different recording positions which are presently in use.

Approximate cost for the magnetic sound conversion is \$110.00. Additional data may be had by writing Mr. Mark Surrurier, Moviola Mfg. Co., 1451 Gordon St., Hollywood, Calif.



Kinevox Sounderaser

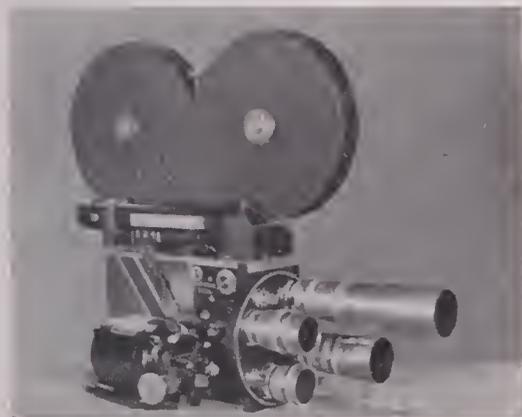
An instantaneous erase device for use in erasing recorded sound on 16mm., 17½mm., and 35mm. magnetic film and ¼-in. magnetic tape is offered by Kinevox, Inc., Burbank, Calif. Unit requires only a few seconds to erase full 1000-ft. reel of tape or film. No unwinding or rewinding is necessary, so that tape or film is ready for use again within minutes of the erase operation. Operates on 110-volt 50-60 cycle AC current. Price is \$60.00.



Turret For "Cine-Voice" Camera

A precision-built 3-lens turret is now available for the Auricon "Cine-Voice" 16mm. sound camera. New turret has

full professional standards of accuracy and permits instantaneous change from one "C" mount lens to another. Lens seats are so placed that both wide angle and telephoto lenses may be mounted without interference. Manufacturer is Berndt-Bach, Inc., Los Angeles. Turret is priced at \$89.50.



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.

New 16mm. Arriflex

The Camera Mart, 70 W. 45th St., N. Y. City, has completed arrangements for eastern sales of the new foreign-built Arriflex 16mm. camera, which will be available in the U. S. shortly. Already handling the 35mm. Arriflex, company also builds blimps and synchronous motors for this camera.

Magnetic Film Reader

Kinevox, Inc., 4000 Riverside Drive, Burbank, Calif., announces, as additional equipment to their fast growing line of magnetic recording apparatus, the Kinevox Magnetic Film Reader as an aid to editing 17½mm. and 16mm. magnetic film and ¼-inch magnetic tape. Unit is used between two film rewinds and magnetic film is guided over the playback head by precision rollers. Pilot light indicates when amplifier power is on or off. Amplifier and speaker are built in. Headphones, not furnished, may also be used. Price of Reader is \$87.50, F.O.B.



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WITH YOUR PRESENT TAPE RECORDER

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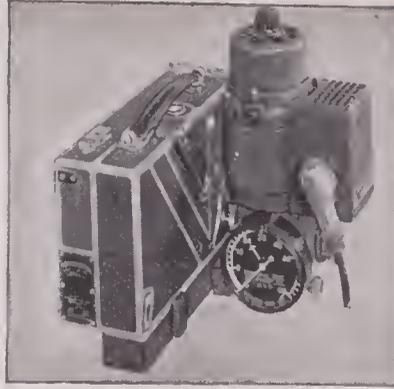
BULLETIN BOARD

(Continued from Page 268)

ALFRED GILKS, A.S.C., photographed "The Tender Hours" at M-G-M, using the new "fast" Technicolor film.

FRED JACKMAN, JR., A.S.C., returned to Hollywood from Puerto Rico latter part of July, where he directed the photography on Ed Gardner's, "The Man With My Face," brought the picture in on schedule.

DONALD E. HYNDMAN has been appointed manager of Eastman Kodak Company's motion picture film department, replacing Kenneth M. Cunningham, who relinquished the post because of ill health. Latter will assist Edward P. Curtis in the export sales of motion picture film.



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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

- HARRY STRADLING, "Valentino," (Edward Small Prod.) with Tony Dexter, Eleanor Parker and Richard Carlson. Lewis Allen, director.
- LEE GARMES, "The Hero," (Sidney Buchman Enterprises) with John Derek and Aldo Da Re. David Miller, director.
- JOSEPH WALKER, "Born Yesterday," with Broderick Crawford, Judy Holliday, William Holden, and Millard Mitchell. George Cukor, director.
- CHARLES LAWTON, "Santa Fe," with Randolph Scott, Janis Carter, Peter Thompson, Jerome Courtland, Roy Roberts, John Archer. Irving Pichel, director.
- PHIL TANNURA, "The Tougher They Come," with Preston Foster, Wayne Morris, William Bishop and Gloria Henry. Ray Nazaro, director.

Independent

- JACK CARDIFF, "Pandora And The Flying Dutchman," (Lewin-Kaufman Prod., shooting in Europe) with James Mason, Ava Gardner. Albert Lewin, director.
- ERNEST LASZLO, "M," (Superior Films) with David Wayne, Steve Brody, Glenn Anders and Walter Burke. Joseph Losey, director.
- FRED JACKMAN, JR., "The Man With My Face," (Ed Gardner Prod.—Shooting in Puerto Rico) with Barry Nelson, Betty Lou Gerson, Carol Mathews, and John Harvey. Edward Montague, director.
- PEVERELL MARLEY, "Illegal Bride," (Fidelity Pictures) with Ginger Rogers, Jack Carson, Joan Davis and Stanley Ridges. Richard Whorf, director.
- MACREL LE PICARD, "Quarter Horse," (Hall Shelton Prod.) with Karen Morley, Donald Woods, Leif Erickson and Rand Brooks. William Beaudine, director.
- STEWART THOMPSON, "At War With The Army," (York Prod.) with Dean Martin, Jerry Lewis, and Polly Burgen. Hal Walker, director.

M-G-M

- CHARLES ROSHER, "Pagan Love Song," (Technicolor—shooting in Hawaii) with Esther Williams and Howard Keel. Robert Alton, director.
- ROBERT SURTEES and WILLIAM SKALL, "Quo Vadis," (Shooting In Italy) with Robert Taylor, Deborah Kerr. Mervyn LeRoy, director.
- ALFRED GILKS, "Shep Of The Painted Hills," (Technicolor) with Lassie, Paul Kelly, Bruce Cowling, Gary Gray. Harold F. Kress, director.
- GEORGE FOLSEY, "Vengeance Valley," (Technicolor) with Burt Lancaster, Robert Walker, Joanne Drue, John Ireland, Sally Forrest. Richard Thorpe, director.
- JOSEPH RUTTENBERG, "Magnificent Yankee," with Louis Calhern, Ann Harding, Eduard Franz, Philip Ober and Richard Anderson. John Sturges, director.

- ROBERT PLANCK, "Royal Wedding," (Technicolor) with Fred Astaire, Jane Powell, Peter Lawford, Sarah Churchill and Keenan Wynn. Stanley Donen, director.

Monogram

- HARRY NEUMANN, "Texas Raiders," with Johnny Mack Brown, Jane Adams and Riley Hill. Lewis D. Collins, director.

Paramount

- GEORGE BARNES, "Mr. And Miss Anonymous," with Joan Fontaine, Ray Milland, and Teresa Wright. George Stevens, director.
- CHARLES LANG, "A Relative Stranger," with Gene Tierney, John Lund, and Miriam Hopkins. Mitchel Leisen, director.
- RAY RENNAHAN, "The Great Missouri Raid," (Nat Holt Prod.—In Technicolor) with Wendell Corey, MacDonald Carey, Ward Bond and Ellen Drew. Gordon Douglas, director.
- W. HOWARD GREENE, "Quebec," (LeMay Templeton Prod.) with John Barrymore, Jr., Corinne Calvet, Patric Knowles, Barbara Rush. George Templeton, director.
- LOYAL GRIGGS, "Passage West," (Pine-Thomas Prod.) with John Payne, Dennis O'Keefe, Arleen Whelan, Frank Faylen, Mary Beth Hughes. Lewis R. Foster, director.
- CHARLES LANG, "Ace In The Hole," with Kirk Douglas, Jan Sterling, Porter Hall, and Richard Benedict. Billy Wilder, director.
- DANIEL FAPP, "The Lemon Drop Kid," with Bob Hope, Andrea King, Fred Clark, Marilyn Maxwell and Lloyd Nolan.

R.K.O.

- GEORGE DISKANT, "Target," with Charles McGraw, Jacqueline White, Gordon Gebert, and Marie Windsor. Dick Fleischer, director.
- ARCHIE STOUT, "Mother Of A Champion," (Filmakers Prod.) with Claire Trevor, Sally Forest, Robert Clarke and Kenneth Patterson. Ida Lupino, director.
- FRANK REDMAN, "Double Deal," with Richard Denning, Marie Windsor, Fay Baker, and Taylor Holmes. Abby Berlin, director.

Republic

- ARCHIE STOUT, "Rio Bravo," with John Wayne, Maureen O'Hara, Ben Johnson, Claude Jarman, Jr., Chill Wills. John Ford, director.

20th Century-Fox

- WINTON HOCH, "The Halls Of Montezuma," (Technicolor—shooting in Mexico) with Richard Widmark, Reginald Gardiner, Skip Homeier. Lewis Milestone, director.
- EDWARD CRONJAGER, "I'd Climb The Highest Mountain," (Technicolor) with Susan Hayward, Wm. Lundigan, Rory Calhoun, Lynn Bari, Ruth Donnelly. Henry King, director.
- JOE McDONALD, "Fourteen Hours," with Paul Douglas, Richard Basehart, Deborah Paget, Jeff Corey, Agnes Morehead. Henry Hathaway, director.

- JOSEPH LASHALLE, "The Jackpot," with James Stewart, Patricia Medina, Alan Mowbray, James Gleason, Natalie Wood. Walter Lang, director.

- LLOYD AHERN, "For Heaven's Sake," with Clifton Webb, Joan Bennett, Robert Cummings, Edmund Gwenn, and Joan Blondell. George Seaton, director.

- ARTHUR ARLING, "Call Me Mister," (Technicolor) with Betty Grable, Dan Dailey, Danny Thomas, Dale Robertson, Frank Fontaine, and Benay Venuta. Lloyd Bacon, director.

- MILTON KRASNER, "Half Angel," (Technicolor) with Joseph Cotten, Loretta Young, Cecil Kellaway, Basil Ruysdael and John Ridgely. Jules Dassin, director.

United Artists

- DON MALKAMES, "St. Benny The Dip," (Shooting In New York) with Roland Young, Dick Haymes, Lionel Stander, Nina Foch, and Freddie Bartholomew. Edgar Ulmer, director.
- FRANK PLANER, "Cyrano de Bergerac," (Stanley Kramer Prod.) with Jose Ferrer, Mala Powers, William Prince and Morris Carnovsky. Michael Gordon, director.

Universal-International

- CHARLES BOYLE, "Tomahawk," (Technicolor) with Van Heflin, Yvonne de Carlo, Preston Foster, Jack Oakie, Tom Tully. George Sherman, director.
- RUSSELL METTY, "Katie," with Ann Blythe, Mark Stevens, Cecil Kellaway, and Elizabeth Patterson. Frederick de Cordova, director.
- MAURY GERTSMAN, "Smuggler's Island," (Technicolor) with Jeff Chandler, Evelyn Keys, Philip Friend. Edward Ludwig, director.
- CARL GUTHRIE, "Undercover Girl," with Alexis Smith and Scott Brady. Joseph Pevney, director.
- CLIFFORD STINE, "Mystery Submarine," with Macdonald Carey, Marta Toren, Robert Douglas and Ludwig Donath. Douglas Sirk, director.

Warner Brothers

- TED McCORD, "Rocky Mountain," with Errol Flynn, Patrice Wymore, Scott Forbes, Peter Coe, Howard Petrie. William Keighley, director.
- SID HICKOX, "The West Point Story," with James Cagney, Virginia Mayo, Doris Day, Gordon MacRae, Gene Nelson. Roy Del Ruth, director.
- EDWIN DU PAR, "Breakthrough," with David Brian, John Agar, Frank Lovejoy, Andre Charlot and Dick Wesson. Lew Seiler, director.
- WILFRED CLINE, "Raton Pass," with Dennis Morgan, Patricia Neal, Steve Cochran and Scott Forbes. Edwin L. Marin, director.

Leaflet Lists Peerless Equipment Installations

A new leaflet, "Where They Are," listing all Peerless installations may be obtained free from the Peerless Film Processing Corporation, 165 W. 46th St., New York 19, N. Y.

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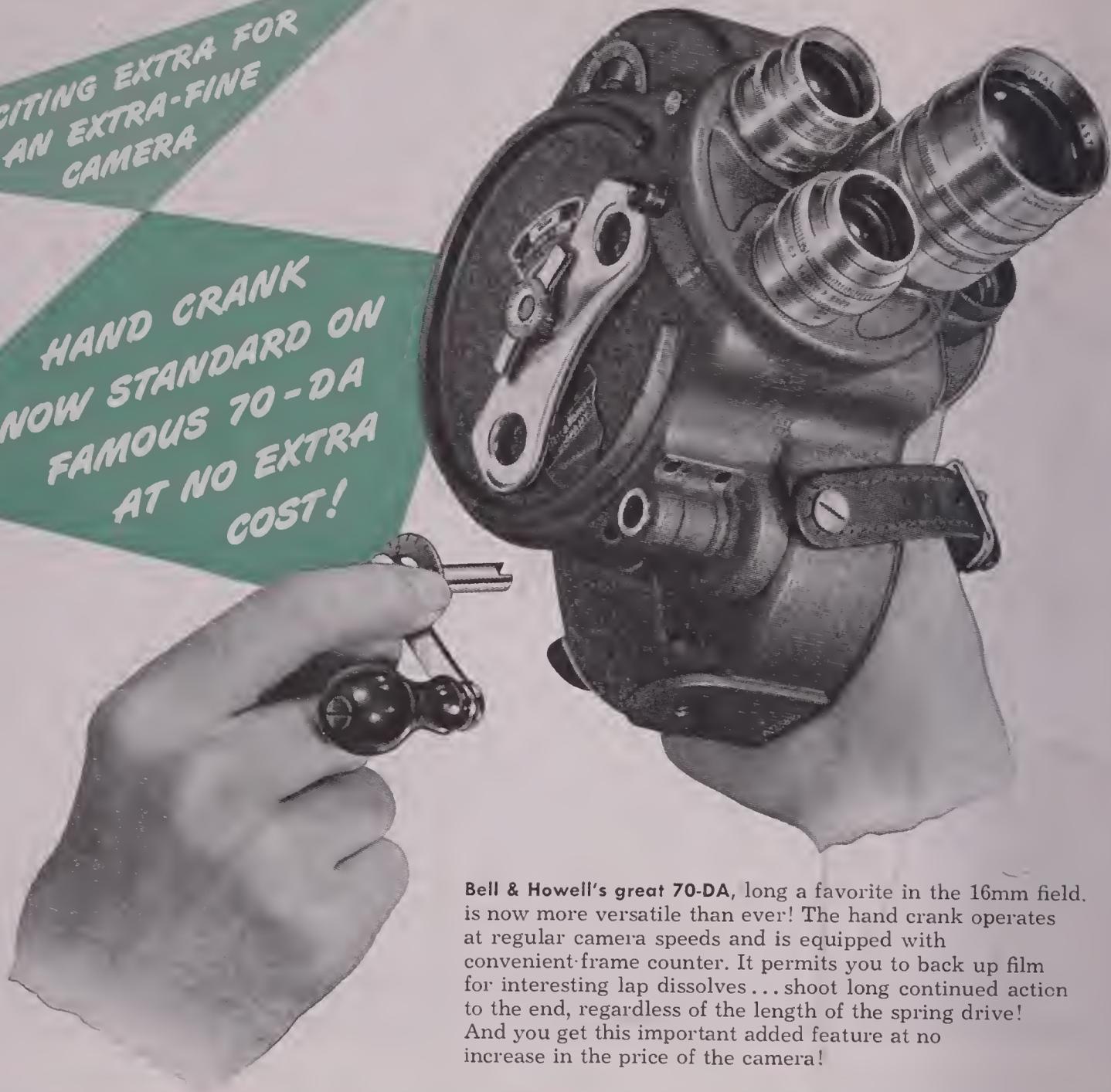
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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY



THIS MONTH: Realism In Color • New 'All-Direction' Dolly • Shooting 16mm. Color For Blowup to 35mm. • New 3-Color Meter

**SEPTEMBER
1950**



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SEPTEMBER • 1950

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ON THE COVER

TEST SHOTS of spectacular underwater scene filmed by John Seitz, A.S.C., for Paramount's "Sunset Boulevard," hold the attention of cast and crew on the set. Examining film strips is director Billy Wilder. Beside him is Gloria Swanson, femme star of picture. Interested onlookers are (left to right) Eric Von Stroheim, director of photography Seitz, William Holden, operating cameraman Otto Pierce, and assistant cameraman Harlow Stengle.—*Photo by G. E. Richardson.*

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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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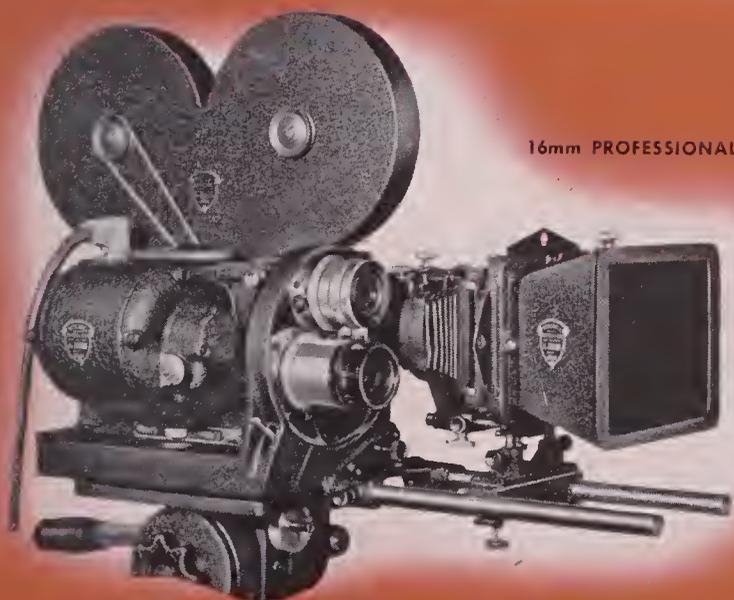
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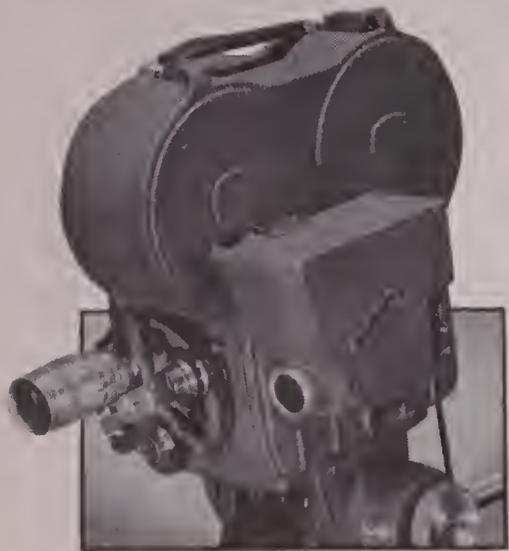
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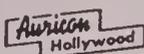
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**MANUFACTURERS OF SOUND-ON-FILM
RECORDING EQUIPMENT SINCE 1931**

Hollywood Bulletin Board



COLLEGE PROFESSOR for a day was William Daniels, A.S.C., when he recently lectured students of University of Southern California on modern techniques of cinematography. Daniels is one of several members of American Society of Cinematographers who have contributed from their vast store of cinematic knowledge in the lecture series at the University.—(Bob Willoughby photo).

CHARLES CLARKE'S superlative cinematography of such 20th Century-Fox pictures as "The Big Lift," "Slattery's Hurricane," "Sand," and "Green Grass Of Wyoming" have earned for him another two-year contract as director of photography with that studio. Next assignment for this former A.S.C. president will take him to Australia to film Fox's "Kangaroo."

BENJAMIN KLINE, A.S.C., one of the busiest directors of photography in the television film field, last month completed shooting his 85th TV film at the Hal Roach studio in Culver City.

RAY FERNSTROM, A.S.C., having early chosen Ansco Color photography as his forté, is currently shooting two productions in that medium for Kaiser-Frazer Motors at the Sutherland Studios.

WALTER STRENGE, A.S.C., will be a familiar face at Republic Studios for next several months, having recently signed to direct the photography on a lengthy serial there.

CHARLES ROSHER, A.S.C., won the American Society of Cinematographers' "Picture Of The Month Award" for June for his photography of M-G-M's "Annie Get Your Gun." Rosher is first cinematographer to win the award twice since the Society inaugurated the awards first of the year. He also won the award in

January for photography of "Red Danube." Picture Of The Month selections are voted by the ASC membership from among films released in the Los Angeles area each month. The monthly winners receive a plaque commemorating the award.

CAPT. LLOYD W. KNECHTEL, A.S.C., while taking two weeks summer training with the "Black Cat Division" at Camp Cooke, Calif., last month, fell from a moving tank, breaking his back. Knechtel is veteran special effects cinematographer, recently with Samuel Goldwyn Studio, Hollywood.

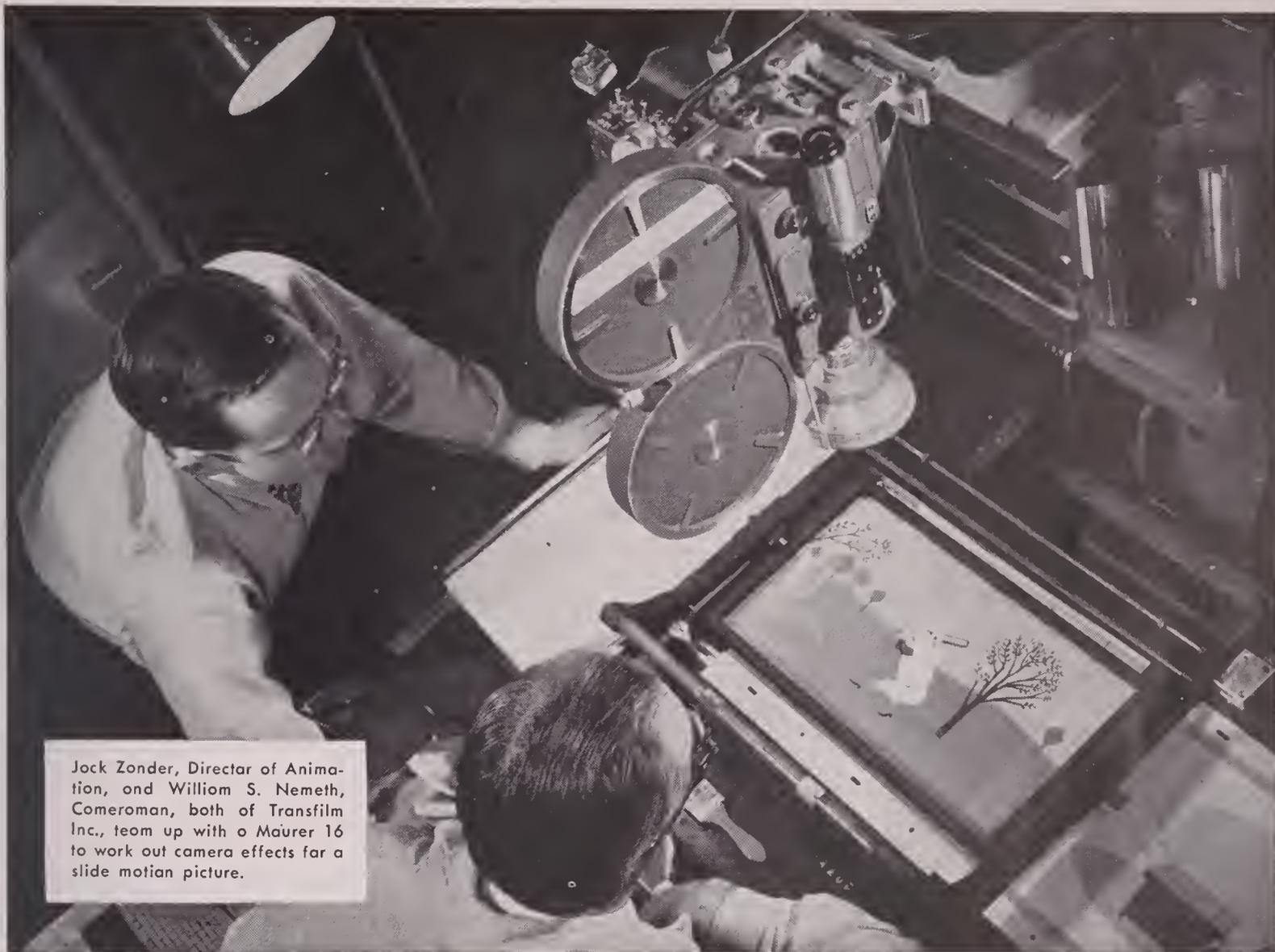
CIVIL SERVICE examinations for motion picture, still and process photographers and motion picture projectionists have been announced by the government. Still and motion picture cameraman positions pay from \$2,650 to \$3,825 per year to start; projectionists from \$2,650 to \$3,825. Job locales are in various Federal agencies in Washington, D. C. and vicinity.

To qualify, applicants must pass a written test and have had from 1 to 4 years experience. Applicants must be citizens of U. S. and between 18 and 62 years of age.

Full information and application forms may be obtained from most post offices, or from U. S. Civil Service Commission, Washington 25, D. C. Filing must be done before September 12, 1950.



HUMBERTO CORELL, (center) Director of Photography for Trans-America Films, Buenos Aires, Argentina, recently in Hollywood on a mission for his studio, visits with John Arnold (left) A.S.C., camera department head at M-G-M, and Charles Rosher, A.S.C., Director of Photography at same studio. Corell is preparing for production of first Ansco Color feature film to be made in Argentina.



Jock Zonder, Director of Animation, and William S. Nemeth, Comeroman, both of Transfilm Inc., team up with a Maurer 16 to work out camera effects for a slide motion picture.

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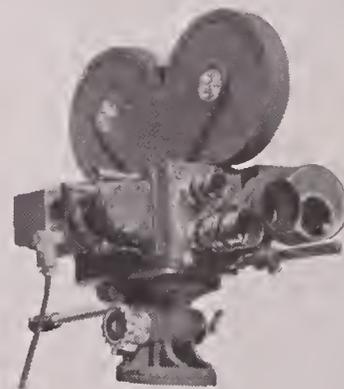
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BECAUSE so much of the story of "Saddle Tramp" revolves around four orphaned boys, camera viewpoint is kept down to "boy height." This meant inclusion of ceilings in most of the interiors.

THE FILL light in exteriors is never over-emphasized, and as a result the photography has a more natural aspect.



Capturing Realism In Color

There's something different in the photography of "Saddle Tramp" that marks it a standout job of Technicolor filming.

By ARTHUR ROWAN

UNIVERSAL-INTERNATIONAL PICTURES seems to have an uncanny knack for taking an average story, filming it in Technicolor instead of black-and-white, and turning it into smart screen entertainment. The recently completed "Saddle Tramp," starring Joel McCrea and Wanda Hendrix, is a case in point. With due respect to the script writer, it must be said that the photography "made" this picture. Hugo Fregonese, who directed it, sought out Charles P. Boyle, A.S.C., after its initial preview and said, "Charlie, you are the real star of this picture." Boyle directed the Technicolor photography. In less expert hands, "Saddle Tramp" might have been just another western,



Chas. P. Boyle, A.S.C.

Fine details in scenes staged in full shade with subtle backlighting aiding the pictorial composition; the genuine look

of the rainstorm scenes; the composition of interiors achieved with a consistently low camera angle on sets that for the most part have ceilings, and the compositional deftness evident by careful framing and camera placement are some of the cinematographic highlights which so unobtrusively impress your mind as the picture unfolds, and which your memory invariably brings back as you reflect upon the picture afterward.

"Saddle Tramp" concerns the experiences of McCrea who, until a few minutes after the picture opens, is a carefree cowpoke with no family ties and no desire to "get tied down." But fate takes a hand when a widower friend dies suddenly while McCrea is visiting with him, and leaves a ready-made family of four small boys for him to take care of. McCrea decides to continue his wanderings with the kids in tow, later picks up a runaway girl, Wanda Hendrix. Now with the responsibility of feeding five youngsters, McCrea is forced to find a job, goes to work for a tough old rancher who hates kids. McCrea is obliged to hide them out in a nearby forest. Nightly

he brings them food pilfered from the ranch house kitchen.

The rancher and a neighbor have been feuding over lost cattle. Each accuses the other of thefts. McCrea, aided by Wanda and the boys, discover crooked employees of both ranchers are doing the stealing. McCrea ultimately brings the crooks to justice, but not before engaging in one of the best photographed hand to hand battles seen in a picture in many moons.

The technique director of photography Boyle employed in filming this picture reflects a superior craftsmanship developed during twelve years spent with Technicolor Motion Picture Corporation as cinematographer. Opening scenes of "Saddle Tramp" are, for the most part, exteriors; but even here there is artistry in the way Boyle places his camera to achieve the two-fold purpose of producing a scene pictorially interesting and at the same time detracting not at all from the players nor the action. Scenes in color easily can have a braking effect on the story if bold colors predominate to draw attention to them. Boyle has countered

(Continued on Page 322)



DESIGNER-builder, Steve Krilanovich, demonstrates important feature of his Dual Steering Camera Dolly which permits operator to sit in well, behind camera. When fully retracted, base of camera is but 15 inches from floor.

New "All-Direction" Baby Camera-Dolly

Newest mobile camera support makes possible intricate follow and dolly shots, proves timesaver in making setups.

By LEE GARMES, A.S.C.

A VERSATILE new vehicle for motion picture cameras that embodies many new refinements tending toward greater mobility, flexibility and light weight is the Dual Steering Camera Dolly designed and constructed by Steve Krilanovich of Hollywood. Its odd name derives from the fact it affords two distinct travel patterns for mobile camera shots: it permits the dolly to travel in straight lines, at the same time permitting abrupt angular turns, or in circles of varying diameters. Its four sets of dual-wheels are swivel mounted and may be interlocked for any direction of travel; both the front and rear pairs turn on axle spindles the same as the front wheels of an automobile. A two-position gear shift sets the wheels for the desired travel pattern, or the dolly may simply be guided through conventional steering as with other camera dollies.

While this dual steering is just one of the dolly's many features, it is perhaps the most important for the director of photography. At Columbia Pictures' studios where I have been using this dolly exclusively in filming interiors for "The Hero," technicians there have coined a new name for it—"The Crab Dolly"—because of its ability to instantly shift direction of travel. My favorite term for it is "the all-angle dolly."

Constructed almost entirely of dural, the dolly weighs 375 pounds, is 32 inches in width and 5 feet long. Sideboard extensions permit widening the deck an additional 20 inches, allowing more room for movement of camera technicians when they must travel with the camera in addition to the operator.

The retractable support on which the camera rests is hydraulically operated and may be raised from the minimum level of 15 inches from floor to a maximum height of 52 inches. This is exclusive of hi-hat, pan head or other camera attachments, of course.

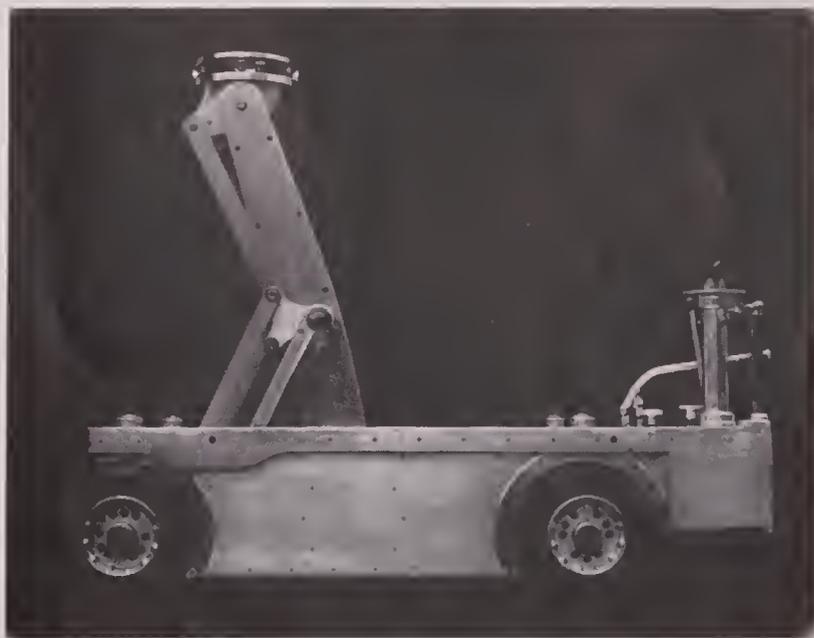
With the camera mounted low, the operator may sit in the well of the dolly, immediately behind the camera—perhaps the only dolly that permits this. The pivot of the retractable support is only four inches above floor level. Another important feature is that, as the support is elevated or lowered, the camera remains in the same vertical plane. At the present time the hydraulic elevator is manually operated, but is to be motorized at an early date to afford smooth "boom shot" action, both up and down.

Because of its light weight and low center of gravity, this baby dolly easily may be moved about the sound stage by one

(Continued on Page 321)



BUSINESS-end of dolly, showing steering arm, gear shift, directional adjustments, and hydraulic lever for raising the retractable camera support. Only 32 inches wide, dolly will negotiate the average doorway on sets.



CAMERA SUPPORT fully raised, affording a camera base elevation of 52 inches. As camera is raised or lowered, it remains in the same vertical plane. Over 65 ball bearings insure velvet smooth operation and travel of this newest camera dolly.



IMPROVED laboratory technique for the production of 35mm. prints from 16mm. color originals enables documentary, newsreel and short subjects photographers to secure interesting footage in near-inaccessible places, using compact and light-weight 16mm. cameras.

Shooting 16mm. Color For Blow-up To 35mm.

Perfect exposure, sharp focus and absence of film surface blemishes essential for top quality blow-ups.

By CHARLES LORING

THE IDEA OF enlarging or "blowing up" 16mm. color original film to 35mm. for showing on standard theatre screens, is not new. For some years now the major studios have been selecting certain 16mm. subjects filmed in Kodachrome, making triple separation negative 35mm. blow-ups of them, and printing them in Technicolor.

During World War II, films shot by the armed forces (including such masterpieces as "Battle of Midway" and "Fighting Lady") were very satisfactorily handled in this way for theatrical release—and since then many short subjects have been presented in the same manner.

In the early experiments involving blow-up of 16mm. color original to 35mm., it was found that the results were sometimes slightly fuzzy and over-contrasty. However, the perfection of new optical printing systems and new film stocks have just about eliminated these disadvantages. Even so, up until

recently the process has been a fairly costly one and the Technicolor labs so busy that it was difficult for the smaller producers to schedule blow-up service. With the introduction of several new processes, however, this service is now being made practical for many independent producers with limited budgets and demands for just a few 35mm. release prints.

There are two basic methods by which 16mm. blow-ups are made. These are called *direct printing* and *color separation printing*. In the first case, a direct enlargement of each frame is made in an optical printer onto 35mm. color stock, such as Ansco Color. In the second case, color separation negatives (either 2 or 3 color) are made from the 16mm. original, also by means of blow-up in the optical printer—and these are printed together to form the composite color print.

The advantage of the direct printing method is that it is faster and quite a

bit less expensive when only a few 35mm. prints are needed. On the other hand, because it is a *monopack* process with all the color layers contained on one film base, it is relatively more difficult for the printing technician to exercise full control over the color quality. For example, if the original tends toward the blue, the technician can correct by printing through filters of a warmer tone. This will correct the cool tones, rightly enough, but it will make the warm tones even warmer—sometimes to an undesirable degree.

The color separation method, on the other hand, is somewhat more expensive when only a few prints are needed, due to the relatively high initial cost of making the color separation negatives. But in quantity printing, the process actually becomes less expensive per print than the direct method.

The color separation process offers the technician a much greater degree of control over color rendition due to the fact that there are 2 or 3 separate negatives involved. Thus, if there is a tendency toward the blue, the technician can correct by toning down the blue control negative without changing the other color values in the scene. Both the Technicolor process and the new DuPont process offer this type of negatives—whereas, in the direct blow-up method, the original 16mm. footage must be used in making each print—thus creating a certain risk to the original.

Which process to use in blow-up work depends upon the budget, technical requirements and number of prints in 35mm. required by the individual producer. According to Hal Scheib (head of Cinema Research Corp., and one of Hollywood's top technical experts in color and optical printing), the first question asked of a producer is how many prints are required. When this is established a budget for blow-up prints can be set, and the method of printing that will fit comfortably into that budget can be determined.

"We don't favor any one process," Schieb points out, "but we are interested in finding the one that will best fit the client's needs, so that we can furnish him with that particular service. Blow-up has now reached such a stage of perfection that only skilled technicians can tell a good one from a straight 35mm. print. It is now possible for the independent producer on a limited budget to provide himself with 35mm. color release prints while taking advantage of the portability of 16mm. equipment and the reduced production cost of shooting with narrow gauge film."

Schieb points out that while it is possible for a blow-up actually to be better

(Continued on Page 325)

Old Master, New Tricks

— a combination that spelled success for photography of 'Sunset Boulevard.'

By HERB LIGHTMAN

IN THE MAKE-BELIEVE world of sunshine and celluloid called Hollywood, the terms "stupendous" and "colossal" have been over-used to the point of becoming synonymous with "fair" and "mediocre." This being the case, when a really *great* motion picture does appear, it is difficult to find fresh superlatives with which to adequately describe it. If such words could be found, however, they would most certainly apply to Paramount's masterful production, "Sunset Boulevard."

The picture tells the story of a woman, an ageing former star of the silent screen, who refuses to accept the fact that the parade of life has passed her by. But more than that, it is the story of one sharp facet of a fabulous industry — a faithful (if somewhat *special*) slice of life out of a glamorous pattern of heartbreak well known to those who work in the world of the motion picture.

To capture the subtleties of this story and to recreate in a modern context the ghostly glories of a gilded era now past, Paramount assembled a rare assortment of craftsmen. The writing-producing, directing team of Charles Brackett and Billy Wilder chalks "Sunset Boulevard" up as one more triumph in a long series of artistic and box-office successes. Gloria Swanson emerges from semi-retirement to score in a performance of magnificent stature — one that will undoubtedly add a gold "Oscar" to her mantlepiece. But credit for this outstanding film belongs equally to the men behind the scenes

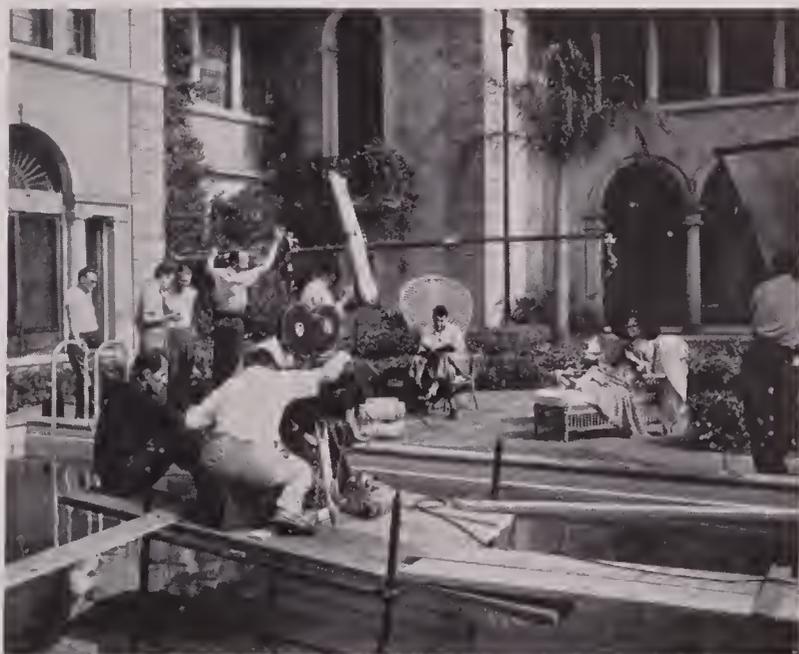


IN THIS SCENE "Sunset Boulevard" takes the audience behind the scenes of a typical Hollywood sound stage, shows camera crews at work. Director of photography John Seitz's camera is in foreground.

— to Hans Dreier and John Meehan for their inspired art direction, to Franz Waxman for his provocative musical score, and especially to John F. Seitz, A.S.C., for his brilliant job of photography.

It is fitting that the camera should play an important role in the telling of the "Sunset Boulevard" story — for here is a plot conceived expressly for the screen — not adapted from the latest best-seller or Broadway stage hit. It is a purely

(Continued on Page 318)



THE QUEST for realism in "Sunset Boulevard" led to filming many sequences in actual locales. Here a Hollywood mansion and swimming pool is used instead of a set on the studio lot. Note reflectors employed instead of studio lamps to supply fill light.



FRAME BLOWUP showing extraordinary underwater shot of discovery of victim's body lying on surface of swimming pool. Effect is that of looking up through the water from bottom of pool — made by placing large mirror on pool floor and filming reflection.



FIG. 1—The new Spectra 3-Color Meter which measures the proportionate amounts of all three primary colors of light.

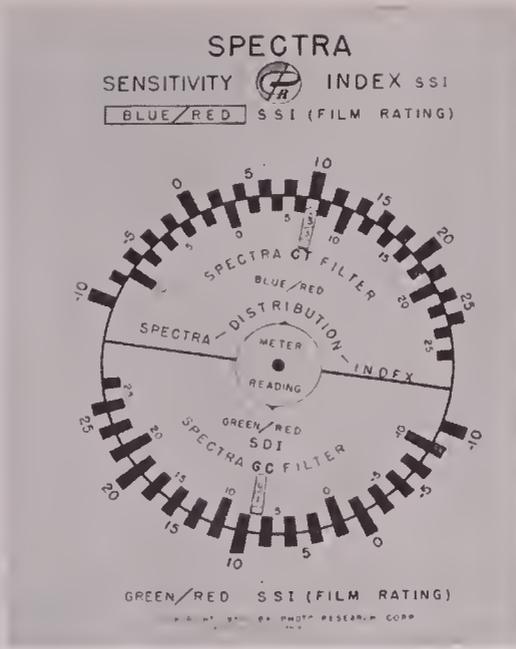


FIG. 2—Computer used in conjunction with new 3-Color Meter which indicates directly the filter to use for prevailing light.

New Three-Color Meter For Evaluating Illuminant Quality

New instrument measures both the Blue-Red and Green-Red ratios of any given light source.

By LARS MOEN
Photo Research Corporation

EVER SINCE the advent of color photography, photographers have sought to cope with the problem of color balance between the sensitized material employed and the light source to which it was exposed in making a picture. Even before the days of integral tripack film (commonly referred to as 'monopack'), one-shot cameras were painstakingly balanced either for a particular artificial light source or for daylight; and even the earliest practitioners discovered to their sorrow that daylight was an illuminant of widely variable color.

When an illuminant is reasonably constant in color—for example, photo floods, flashbulbs, and other photo lamps—color film can be balanced to it by the manufacturer, or at least he can furnish correction filters which will consistently bring the film and illuminant into a balanced relation. Incandescent light is variable, but it can be held within fair tolerances.

Daylight, however, is quite another story. The amounts of red, green and blue in daylight change with the hour, the season, the altitude and latitude, with

the state of the sky and the weather, with atmospheric contamination—in a word, with so many variables that no table and no computer could possibly cope with them.

In a confused situation such as this, no one will dispute the need for two specific things: an adequate instrument for the measurement of the spectral energy distribution—or color balance—of any illuminant, and a convenient unit or index number in which the reading of that instrument can be correctly expressed.

Photo Research Corporation of Burbank, California, among the first to apply research in this direction and whose Spectra color temperature meter is well known among cinematographers everywhere, has, as a result of continuing research, introduced a new model of the Spectra, to be known as the *Spectra Three-Color Meter*. Designed for the accurate determination of the color of a light source, one of its major applications is in the field of color cinematography where the illuminant must be of the color

to which the film has been balanced.

Readings of the original Spectra were based on the Kelvin color temperature of the light source in question. The new Spectra Three-Color Meter has two notable changes: the instrument measures the proportionate amounts of all three of the primary colors, instead of only two, and the amounts of these colors are no longer expressed in meaningless Kelvin temperature units but in a new log unit known as the Spectra Index, which brings illuminant, film and correction filters into a simple, direct relationship.

The old Spectra has given satisfactory service, within the limitations of the Kelvin color temperature concept. However, "color temperature" must be based on the measurement of two colors only, it being assumed that the third color is present in the amount which theory would call for. This is usually the case when dealing with incandescent light sources, but is not always true in regard to other illuminants, and particularly to daylight.

The unfortunate shortcoming of "color temperature" is that while it may be quite accurate in dealing with incandescent light sources (which are virtually "black bodies") it is wholly inadequate in dealing with daylight and most artificial illuminants. The reason is simple. The Kelvin scale is adequate for the ratio of any given *two* colors in the spectrum (say, for example, the middle of the red and the middle of the blue) but for any given third color there is only one possible value at a given ratio of the other

(Continued on Page 320)

SPECTRA SENSITIVITY INDEX (SSI)

The following table shows the Spectra Sensitivity Index (SSI) for currently available color films:

EASTMAN FILMS	S.S.I
Ektachrome Type B	0/0
Ektachrome Daylight	14/7
Kodachrome Type A	2/1
Kodachrome Type B	0/0
Kodachrome Daylight	14/7
ANSCO FILMS	
Anso Color Film Tungsten	0/0
Anso 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, 1950 Photo Research Corp., Burbank

FIG. 3—Card furnished with meter shows the Spectra Index ratings (SSI) of available color film materials.

Filmdom's
First
Family—

EASTMAN

Negatives
Positives
Sound Recording
Duplicating

Nothing
Can Be Better
Than The Best!

EASTMAN
IS THE BEST—

J. E. BRULATOUR, INC.

Distributors

Fort Lee

Chicago

Hollywood



Keep them
"forever
young"!

Never again will they relive this moment. The sparkling sun, the eager smiles, the childish handclasp. The day will come, though, when they will want to—and so will *you*—in movies made on Ansco Hypan Film.

Hypan captures those precious memories as no other film can. It has splendid panchromatic color balance—*plus extremely fine grain and sparkling contrast*—to give you outstanding results on your screen. Your family,

your friends and neighbors, will not only applaud the brilliant lifelike quality of your movies made on Hypan . . . they'll want to come more often and stay later!

Next time, load your camera with Ansco Hypan and discover for yourself why so many amateurs are using this film for their black-and-white movies. **Ansco, Binghamton, N.Y.** A Division of General Aniline & Film Corporation. "*From Research to Reality.*"

INSIST ON *Ansco* 8 AND 16mm HYPAN FILM

Filming With Perspective Control

Compositional advantages achieved with lenses of different focal length.

By CHARLES L. ANDERSON

THE CONTROL of perspective is one of the most valuable tools in the kit of many cinematographers. The best cameramen aren't satisfied to adjust only subject tones with their lighting and the "plane composition" in their framing. They know that perspective, too, can be under their control and choose their angles and lenses accordingly. Most amateur and some documentary filmers decide on what lens to use only on the basis of the amount of subject matter to be included in the scene; the very important effects on perspective that lens choice causes are invariably overlooked by them.

From a given camera position, the lens of short focal length will take in more of the setting while a longer focal length lens takes in less. And the amount included in the scene is inversely proportional to the focal length of the lens. But if you should move back with the longer lens to include the same view obtained with a short one, the final effect will *not* be the same. Scenes made with the wide-angle lens will have a stronger perspective. In other words, foreground objects will be enlarged and distant objects made much smaller.

The wide angle is a lens of many uses, but its chief advantage is probably the ability to dramatize your set-ups. Perspective is increased, objects and persons are rounded out, and movement towards and away from the lens is sharply accentuated. Melodramas are now almost exclusively filmed with short focal length lenses to give scenes extra "punch." The 24mm. and 28mm. lenses are the extreme ones; their equivalent in 16mm. work would be 12mm. and 14mm. Viewing low angle scenes made with these lenses, the camera seems to be a foot below the floor level. Walls seem to curve outwards, and shadows become menacing.

The 35mm. lens, once considered strictly a wide-angle lens, is now used as standard at several studios. It lends

better modeling to the actors if they're not in too close and retains good perspective that helps keep the illusion of 3rd dimension on a flat screen. Some faces, however, are definitely not flattened by this lens, and it should not be used for big closeups, except where slight distortion is desired. A closeup with this lens has the distortion of a 28mm. or 32mm. lens on a long shot. The picture "Rope" was filmed entirely with 35mm. lenses to get the most out of the limited settings, as the picture was shot a full reel at a time. The equivalent lens for 16mm. cameras is the 17mm., one that can well be used as standard. The 16mm. filmer hasn't the crisp sharpness of the 35mm. filmer in his pictures; there's no limitation on perspective, however, and this lens can keep compositions forceful.

Films of industrial subjects should like this lens, as it will dramatize their clients' factories and display rooms. As-

sembly lines filmed with it look 30% longer, and buildings appear generally more spacious. The best cameramen are always on the alert for foreground props to enliven dull scenes and this is the lens that helps in this respect. Being shorter than the 1", it has more depth to keep the foreground piece in focus, and it will give separation between the various planes in the frame. Some sports filming would benefit from this lens, too, as the spectator sees more of the action.

T.V. films lose in two ways on the home receiver—their tonal range is compressed and sections of the frame are lost. (15% top-and-bottom and 20% on the sides is the accepted figure at one of the networks.) Using the shorter lens for films for T.V., you use a focal length that is more appropriate to the frame that is actually seen in the home. And you keep perspective lines strong to help

(Continued on Page 324)

FILM SIZE:	35mm.	16mm.	8mm.
	24mm.	12mm.	6mm.
	28mm.	14mm.	7mm.
L E N S	30mm.	15mm.	7½ mm.
	35mm.	17½ mm.	9mm.
E Q U I V A L E N T S	40mm.	20mm.	10mm.
	2 in.	1 in.	½ in.
(1 in. = 25.4mm.)	75mm.	37½ mm.	19mm.
	4 in.	2 in.	1 in.
	6 in.	3 in.	1½ in.

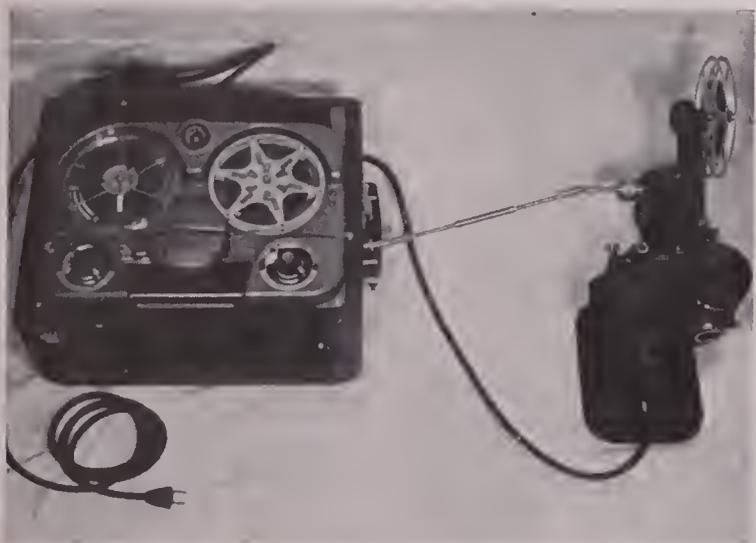
NOTE: Exact equivalents of standard camera lenses are often not obtainable for substandard cameras. At the present time, 13mm., 15mm., 17mm., and 20mm. lenses are available for short focus use with 16mm. cameras. A remounted gun-camera lens of 35mm. focal length can be used in place of the non-existent 37½ mm. lens.



Movievox recorder synchronized with Bell & Howell 8mm. projector. Synchronism is maintained through flexible shaft connecting both machines, each operating under own power.



SHOWING Brush Soundmirror hookup with 8mm. projector to provide "lip-sync" sound for silent home movie films. Both recording and playback are effected through same instrument.



SHOWING method of linking a Revere magnetic tape recorder with a Bell & Howell 8mm. projector, using the Movievox Synchronizer, which maintains sync regardless of playing time of film.

Sound 'In Sync' For Amateur Movie Films

Movievox Synchronizer links any 8mm. or 16mm. projector with magnetic wire or tape recorder for making sound tracks for home movies.

By J. F. BAILEY

THE RECORDING and playback of sound in perfect synchronization with amateur movies is easy as well as thrilling, now that magnetic wire and tape recorders and a dependable means of maintaining synchronism are available. One such synchronizer is that being marketed by the Movievox Company, of San Antonio, Texas. It may be used in conjunction with any 8mm. or 16mm. projector, silent or sound, and any wire or tape recorder, to provide synchronized sound for silent movies.

Simple and trouble-free in operation, the Movievox provides synchronization of sound and picture to the exact frame. It will maintain "lip-sync" accuracy automatically, every time, and without the necessity for constant watching and adjustment of the mechanism as the picture is being screened. In other words, when you thread film in the projector and wire or tape in the recorder-reproducer — with cue marks in their proper positions — both machines may be started and allowed to run without further attention, thus permitting the operator to sit with the audience and enjoy the picture.

The Movievox Synchronizer is composed of two units: the projector unit and the recorder unit. The projector unit is mounted on a bracket, using screw holes already existing in most projectors. It is connected to the projector's threading knob shaft by a special coupler, which replaces the projector's original threading knob. Where a threading knob is not provided, the Movievox Company can install one at a nominal charge. This projector unit "meters" the projector's speed (which may vary due to line voltage fluctuation) through a flexible shaft to the recorder synchronizing unit. The flexible shaft "floats" between the two machines, allowing the recorder to run only as the projector leads it. However, both machines operate on their own motors.

The Synchronizer induces no additional load or drag on either the projector or sound recorder. Its operation is smooth and unrestrained. The connecting flexible shaft is equipped with threaded fittings at either end, and can be attached or disconnected in a matter of seconds, permitting either machine to be used separately when desired.

In addition to the Synchronizer for projection of pictures, Movievox also has developed a Synchronizer for use with any cine camera equipped with an electric motor drive. This Synchronizer is driven from the camera motor shaft and connects to the recorder by means of a flexible shaft which may be had in lengths up to six feet. Thus, sound may be recorded in full synchronism with the action as the picture is

(Continued on Page 316)

Announcing

THE AMERICAN CINEMATOGRAPHER'S 1951 INTERNATIONAL AMATEUR MOTION PICTURE COMPETITION



The American Cinematographer's 1951 competition is open to amateur movie makers of all nationalities and in all countries of the world for films made in either 8mm. or 16mm. width, black and white or color. Unlike our 1950 competition, you do not have to be a member of an amateur cine club in order to compete nor must films be sponsored or submitted through such cine clubs.

Next year, ten awards for THE TEN BEST FILMS will be presented to lucky amateur cine photographers.

Qualifications for entries: all films must be wholly amateur produced, except for any commercial production of titles and processing. All sound film entries must be wholly amateur-recorded. Film length is restricted to a maximum of 800-ft. in 16mm., and 400-ft. in 8mm. Contest closes March 1, 1951. No films should be submitted before December 1, 1950.

AMERICAN CINEMATOGRAPHER
HOLLYWOOD

SOUND "IN SYNC"

(Continued from Page 314)

filmed. Planned or ad-libbed conversations can be recorded in absolute synchronism with lip movement. By using clap-sticks, same as in double-system film recording, editing the film and the magnetically recorded sound track is relatively easy.

It is a simple matter to install the Movievox Synchronizer units on most 8mm. and 16mm. projectors and on Webster wire recorders. Installation of Synchronizers on cameras or on other makes of wire or tape recorders usually is done by Movievox factory technicians. The Movievox Company also makes available a magnetic wire recorder with Synchronizer built in. This employs a Webster wire handling unit in conjunction with the Movievox amplifier and separate under-screen speaker. Movievox chose wire as its recording medium because of the longer playing time per unit, and the company also has produced its own brand of recording wire, said to have exceptional tensile strength and excellent reproduction quality. Spools are available in 20, 30, 40, 60, and 90 minute

lengths, corresponding in playing time with most home movies.

The Movievox amplifier has input channels for both microphone and single or dual phonograph turntable pickups, plus a plug-in for monitoring headphone. It provides a three-channel input switch with positions for recording, erase and playback, and allows use of amplifier as a public address system. Input channels are well balanced, with built-in mixer which permit phonograph music etc., to be faded at will as background for dialogue and action. The mixer is also available as a separate unit for use with other makes of recorders.

Magnetic sound on film is something that has been promised the movie amateur for some time. When and if that day arrives, owners of Movievox Synchronizers will be ready for it, for the Movievox has provided facilities in its Synchronizer by which it will be possible to plug in a lead from any magnetic film sound head and play such films through Movievox equipment. Also, this feature will permit re-recording sound made for

present films on a magnetic sound film track, using the Movievox Synchronizer to insure synchronism in the re-recording.

More and more movie amateurs are finding new interest in their movie hobby by adding synchronized sound to their films via magnetic recording. The author has recorded sound for countless films of his own and it was his early experiments that led to development of the Movievox equipment described here. Of interest is the fact that several producers of 16mm. industrial films have adopted Movievox equipment to their sound recording needs. They have discovered the quick erase and playback features of the Movievox saves them considerable expense that might otherwise be expended in the process of making conventional optical sound tracks. Using Movievox equipment, they record their sound tracks on magnetic wire or tape, then re-record the best "takes" s.o.f. when making final composite prints. The recordings are then erased and the wire or tape used again.

This "reusable" feature of magnetic recording mediums is a boon for the movie amateur, too. Should he wish to revise or improve a sound track for a film, he need only "erase" the recording by running the wire or tape through the recorder with the erase set, then re-record a new track. END.



**The Trade Mark of research and production
of equipment for the exacting control of**

COLOR PHOTOGRAPHY

OPTIMUS MOTIF

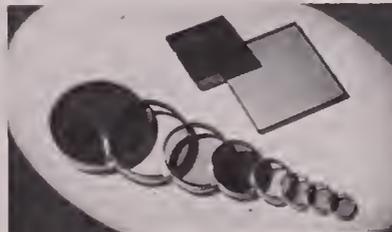
Precision Optical Viewer
for use in production of
motion pictures.

PRICE \$97.50

Containing five viewing lenses which match the five standard lenses used in motion picture cameras (28, 30, 40, 50, 75mm), the Optimus Motif provides instant, overall scanning of the scene exactly as seen by the camera lens. Positive click stops and the milled ring on the instrument make it simple and easy to use. An optical adjustment is provided to compensate for varying degrees of eyesight.



C T COATED FILTERS



Mounted between optically flat glass, these Color Temperature Filters are low-reflectance coated for minimum light loss and freedom from flare. They are now available in a full range of sizes and a complete series to raise or lower color temperature by any desired amount.

COLOR CONTRAST VIEWING GLASS



This 2% density optical viewing glass, shows the highlight and shadow details of scenes exactly as reproduced on color film. Changes in illumination of subjects to be photographed may be made as indicated by the use of this viewing glass.

PRICE \$2.95 plus excise tax
Panchromatic Viewing Glass for black and white film—\$2.95 plus excise tax



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EASTERN REPRESENTATIVES: CAMERA EQUIPMENT CO., 1600 BROADWAY, NEW YORK 19, N. Y.

"PROFESSIONAL JUNIOR" Camera Equipment...

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

Interchangeable - Removable Head Tripods



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.

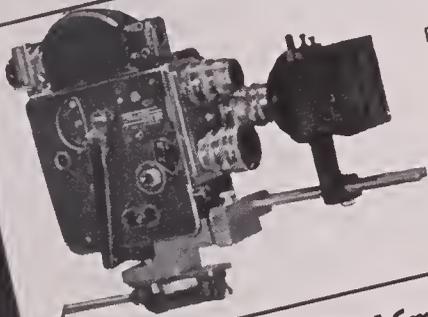
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5 1/2 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.

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

SUNSHADE & FILTER HOLDER COMBINATION

For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. glass filters and 2 1/2" 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.



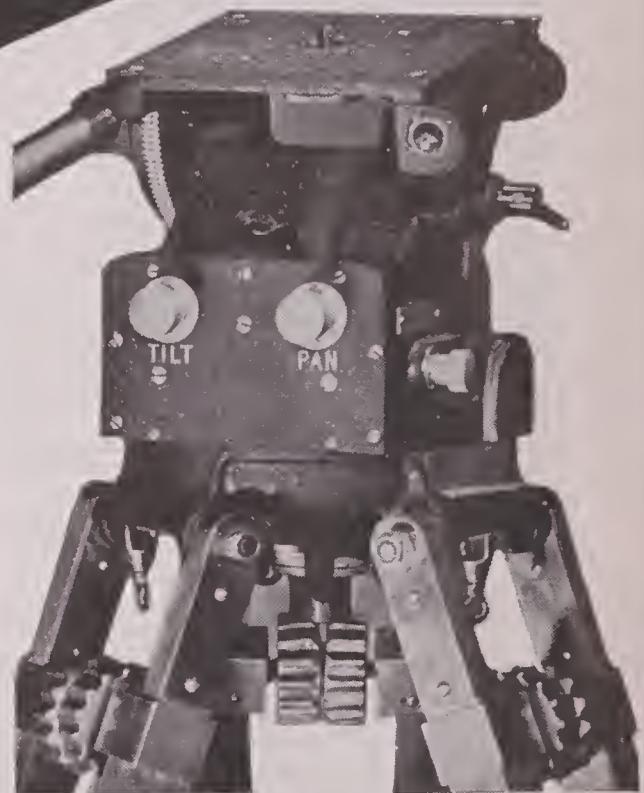
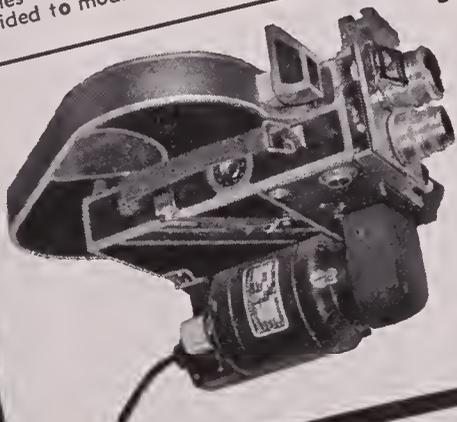
BLIMP for EK 16mm. CINE SPECIAL

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.



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(Continued from Page 309)



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cinematic vehicle — and as such, it depends strongly upon the subjective eye of the camera to tell its intense story.

The photography in this film is honestly realistic, yet suffused with an aura of other-worldliness that perfectly complements the mood of the story. It does full justice to the lavish, decadent elegance of the ghostly mansion in which lives the idol of another age. It strikes precisely the right note in portraying the heroine — unmistakably middle-aged but a commanding figure, and still, in her own way, a beautiful woman. There is no varnishing of the truth for manufactured glamour, no mushy diffusion in an attempt to transform a fifty year-old woman into an illusion of eighteen year-old prettiness. Had this latter point been less honestly handled, the entire film would have lacked credibility.

“Sunset Boulevard” depends upon photographic mood for much of its dramatic effect. Thus, the more intense sequences are played in a low-key faithfully motivated by time of day as well as locale. The restrained lighting in these sequences leads the audience to focus its attention sharply upon the action and dialogue of the players in such a way that the performances could also be kept effectively restrained.

Wide-angle shots involving extreme depth-of-field are used most forcefully in this film. In one scene, the bandaged wrists of the actress (the result of a suicide attempt) dominate the foreground of the frame, while her young lover moves freely about in the background. Both planes are held in sharp focus. In another scene, the white-gloved hands of the butler are seen playing the organ in the foreground, while background action takes place in a widely separated plane.

To achieve this extreme depth-of-field it was necessary to use a greatly intensified light level and to latensify the film in order to stop down the lens aperture sufficiently. The latensification process added about two stops to the speed of the film—allowing a scene lighted for f3.5 to be shot at f7. This method was used in shooting about 15% of the total footage in the picture.

In one scene, the key-light illuminating the players actually came from a practical lamp appearing in the composition — a minimum of fill-light being used to soften the shadows. This might be described as *source* lighting carried to the ultimate degree. Latensification also made possible the filming of realistic night exteriors and street scenes actually

shot at night instead of in daylight with the use of filters.

The quest for realism led to the filming of many sequences in actual locales, including the Paramount Studio itself, filmed at night for the first time; a section of the Bel-Air golf course; exteriors of Schwab's drugstore, famed Hollywood hangout; and several apartment buildings and stores. A deserted 25-room mansion, built about World War I, served as an ideal exterior set for Miss Swanson's presumed home. The only thing that it lacked to fit the description in the script was a swimming pool. So one was built — and then filled in again after completion of shooting, to conform to the wishes of the owner.

The interior of the house, built on the set at Paramount, was cluttered with ornate furniture, a gold-plated piano, a pipe organ, a motion picture screen on the wall with a projection room opposite, heavy carved tables and chairs, a huge fireplace, ship models, a Turkish water-pipe; and a lavish bed shaped like a gondola with a curved prow, golden cherubs, and a silken canopy.

The interior of Schwab's drug store was duplicated down to the last toothbrush. Actual merchandise was brought in to fill the counters and shelves. The soda fountain was a practical one, dispensing real ice cream, sandwiches, etc. Even the licenses were borrowed from the drug store and hung in their proper places.

An extraordinary scene is included in the sequence which shows the young writer's body discovered floating face downward in the swimming pool. The effect is that of looking up through the water from the bottom of the pool to see the victim's face and the police photographers standing on the pool-edge and shooting photographs in the background. Placing the camera under water would not have given the desired effect, since the water's surface acts as a mirror and would have prevented anything outside of the pool from being seen. Instead, a giant mirror was placed under the water. The camera was set-up alongside the pool and the reflection in the mirror was photographed. The effect is striking, to say the least.

A compressed-air gun fired by an electric solenoid valve was used where Miss Swanson presumably fires a revolver at her lover, missing his head by inches and breaking a heavy plate glass door. This gadget, accurate to the fraction of an inch when set-up properly, resembled a surveyor's instrument. The “bullet” was a half-inch steel ball-bearing. The “gun”

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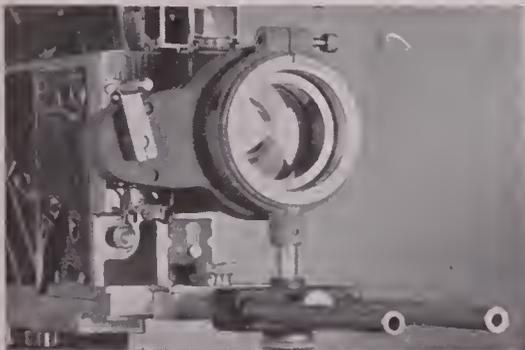
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had a striking force of 180 pounds pressure per square inch. As planned, it shattered the glass at the right spot each time fired, fortunately missing the actor.

To film a sequence where Miss Swanson and her boyfriend do the tango, director of photography Seitz used a *dance dolly*—a small platform on wheels—placed immediately in front of and attached to the camera which, in turn, was also mounted on a moveable platform. Men behind the camera moved both the camera platform and the dolly, thus permitting a shot of the dancers making a complete 360 degree turn around the room. The basic idea is far from new; Seitz first introduced it when he filmed Rudolph Valentino and Alice Terry dancing the tango in "The Four Horsemen of the Apocalypse" back in 1921.

Seitz approaches a film with the idea of letting the photography tell the story in the most interesting and dramatic manner possible. With this in mind, he pays a great deal of attention to the presentation of sets as well as proper photography of the players.

"I always try to dramatize the locale of a story photographically," he explains "because in most cases the setting has a great deal to do with the drama of the situation. This was true of 'Double Indemnity,' 'Five Graves to Cairo,' and 'The Lost Weekend.' It was especially true of 'Sunset Boulevard,' because in that film the decor and mood of the principal setting was an unmistakable clue to the personality of the main character."

As a cinematographer, Seitz is a craftsman of great professional integrity and

he proves this in his working approach to a film. Where another cameraman might be inclined to play it safe (especially in this day of restrained budgets) by using tried and true formula techniques, Seitz doesn't hesitate to "stick his neck out" to try for the unusual and original effect—and he invariably comes up with an exciting result.

"It is possible to make a motion picture too polished, too glossy, and too perfect in every detail," he points out. "The result is a dull and lifeless film. I believe that a motion picture should be alive and not dead—spontaneous instead of calculated. I have no preferences as far as subject matter of assignments is concerned—as long as I am given scripts that can be made to 'come alive' through a well co-ordinated combination of acting, direction and cinematography."

Far from being a trickster out to create an effect for its own sake, John F. Seitz, A.S.C., remains, after more than 30 years in the industry, an alert experimentalist, constantly searching for new approaches and original camera techniques to make the motion picture a more live dramatic medium.

He has been at the top of his profession since the days of Valentino; yet there are no cliches in his style—as modern as tomorrow, rugged, forceful, and (above all) alive. Pictures like "The Lost Weekend," "Double Indemnity" and "The Big Clock" prove the force of his photography as a story-telling instrument—and he insists that cinematography must exist to tell the screen story, rather than to stand out as a separate artistic entity. "Sunset Boulevard" more than proves his point.

NEW THREE-COLOR METER

(Continued from Page 310)

two. For example, for any given blue-red ratio, green can have only one value, as expressed in Kelvin color temperature. Since any illuminant other than incandescent lamps is quite likely to have more green or less green than a black body, color temperature fails to describe it. In other words, color temperature would be adequate for two-color photography, but fails completely when applied to *three-color* photography, which is what interests most cinematographers today.

For this reason, Photo Research has spent several years in the development of a convenient system which would relate the amounts of red, green and blue in an illuminant to the different types of color film and to the selection of any necessary corrective filters.

This has resulted in a simple log index derived from the ratios of Blue to Red

and of Green to Red. For example, the Spectra Index for photoflood lamps is 2.0/1.0. This means that a photoflood lamp which is emitting light of the color for which Type A color film is balanced should give a reading of 2.0 on the Blue-Red scale of the meter, and of 1.0 on the Green-Red scale.

If the B-R reading is more than one-half unit high or low, a correction filter of the Turquoise-Salmon series must be applied. If the G-R reading is more than half a unit away from the correct value, a correction filter of the Green-Magenta series must be placed over the lens. In either case, a convenient computer (Fig. 2) indicates directly the filter to employ in a given case. A card is furnished indicating the Spectra Index ratings of available color film materials (Fig. 3).

To enable users to obtain the full

benefits of the three-color system, Photo Research is also making a complete series of mounted glass filters to match the scales of the Three-Color Spectra. One series of filters, the CT, provide the usual type of correction for yellowish or bluish light. The new series, the GC, correct for a deficiency or excess of green in the illuminant.

In addition to furnishing the new meter, Photo Research Corp. is prepared to convert any of the older two-color Spectra meters to the new model, at a reasonable charge, the shape and general construction of the instrument remaining unaltered.

BABY CAMERA-DOLLY

(Continued from Page 307)

man. The steering control is essentially the well-known "bicycle" type—a horizontal bar attached to a vertical shaft leading directly to the gear box. A conventional gear shift controls the pattern of travel—square or round—as it is designated. There is a dial and pointer near top of the steering shaft which affords the operator a precise guide in executing intricate travel shots. The degree of turn at a given point may be chalked on the dial insuring the correct turning of the steering bar as travel proceeds.

Instead of single, balloon-tired wheels, dual wheels are used fitted with 12-inch zero pressure rubber tires. This affords a wider wheel contact with the floor and therefore more rigidity to the dolly, without encumbering the steering. Velvet smooth operation of dolly travel as well as of all moving parts is assured by use of over 65 ball bearings, the largest of which are installed in the wheel hubs.

The two patterns of travel are designated on the gear shift panel as "square" or "round." One of the chief advantages claimed for the spin or circular pattern of travel is in shooting in close quarters—around massive furniture which cannot readily be moved. In this, the back wheels follow precisely the path of the front wheels, making it possible to maneuver the dolly through very narrow passages and make abrupt turns.

We employed the dolly in making several prolonged travel shots of this type on sets for "The Hero." In one instance, the dolly travels forward about ten feet, shifts to the right about 18 inches, then continues forward, then turns slightly to right, backs up a few feet, then moves forward—tracing an elongated and somewhat irregular "U". But the execution was simple and was performed within very narrow limits of the stage.

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vantageous in making dolly or follow shots such as, say, that of a man walking around a room of an art gallery, looking at pictures hung on the walls. The camera can travel the full length of the room, then do a "squads right" and continue at right angles *with the dolly and the camera position (with relation to subject) unchanged*. In other words, the dolly remains pointed in the same direction, the wheels only changing direction in making the right angle turn. Of course, as with other camera dollies, the Dual Steering Camera Dolly can be set for conventional travel shots in which the pattern of travel is determined by tracks or regular steering. The dolly may be used with or without tracks; on "The Hero" sets, we provided a smooth tracking surface by laying down panels of hard-surfaced 5-ply wall board over the area in which we were to work.

On the basis of wide use of the dolly on this production, I can vouch for its many time-saving as well as mechanical attributes. It permits a cameraman to keep a more balanced picture from a composition point of view. It eliminates the need for booms, except for exceptionally high travel shots, and is indeed more flexible than the average camera boom, due to its compact size. From the point of saving time, it drastically reduces the time required in making setups—again because of its small size and portability and the fact only one man is required to move it into position and

align it for the shot. Instead of four or five cuts, required so often where camera is mounted on other types of supports, this dolly makes it possible to film a given action in one continuous shot. Even where it is not used as a dolly, it is still a better camera support than any other dolly, perambulator or tripod because it permits quicker shifting to new setups.

Director David Miller was able to shave considerable time from our shooting schedule by revising his script on several occasions to telescope a number of scenes into one continuous take, executed with the aid of this dolly; and Sidney Buckman and Buddy Adler, executive-producer and producer respectively of "The Hero," expressed their enthusiasm on the set for the many unusual cinematic touches with which we have embellished the picture, thanks to the Dual Steering Camera Dolly.

Its compact size and light weight, of course, make the dolly an ideal piece of equipment to use on remote locations. Four men can lift it into a truck or utility trailer. Ultimately, the dolly should find wide use in the making of commercial films and it obviously is well adapted to use by television studios—although it is presently available only for rental to Hollywood studios. But as its fame spreads, demand is certain to result in quantity production of the dolly for outright sale to studios, 16mm. film producers and others.

CAPTURING REALISM IN COLOR

(Continued from Page 306)

color with tactful camera placement to keep action and players dominant at all times.

This is particularly evident in the closeups, most of which were filmed with a wide angle lens. There are instances where composition is such that one camera setup is made to do the work of two or three, and at the same time produce more fluid continuity of action without distracting cuts.

When McCrea arrives at the widower's ranch, the camera is brought down to a lower level, for henceforth attention centers on the four lads soon to be orphaned, and a warmer, friendlier feeling is generated. Grips produced a special underslung camera dolly for these shots simply by inverting a conventional dolly and adding planks to its undercarriage, which afforded a platform only two inches above the ground. Thus Boyle was able to lower his camera a full twelve inches.

Inside the modest ranch house, ceilings are visible in most shots, but these have

been rendered more or less unobtrusive by skillful lighting. Few who see the picture may remember the ceilings, but their presence exerts a subtle compositional influence in the photography.

To create a rainstorm setting for the early scenes in "Saddle Tramp," studio technicians manufactured an artificial storm over 95,000 square feet of Universal-International's back lot. Forty rain towers, each 30 feet high, inundated the area at a rate equal to one inch of rainfall every two hours.

The scenes photographed in this "rain" are some of the best filmed in Technicolor to date. Rain, especially in color, is a difficult subject to photograph realistically. Boyle employed a technique he also used later in shooting the dark interiors of the forest. Instead of attempting to light the whole set in an effort to show rain falling over the entire scene, he simply highlighted one small portion of it. Thus, raindrops were clearly visible with near three-dimensional clarity. Carefully calculated lighting accentuated

the splash of the raindrops, and in the medium and long shots rain puddles were created artificially for still greater realism. In another rain scene a rainbow appeared—something that special effects artists have sought to create for years. It is included in the picture for a startling effect on the screen.

Southern California ranches within a 30-mile radius of the studio provided location sites for "Saddle Tramp"—one, a 7,000 acre site, is devoted almost exclusively to movie makers. A great many of the subsequent scenes for this picture were played deep in the shade of a forest of mammoth oaks on this ranch. Here McCrea's young charges set up camp, and Boyle's camera, aided by a minimum of artificial lighting equipment, has done an artful job in recording the night and day scenes enacted there.

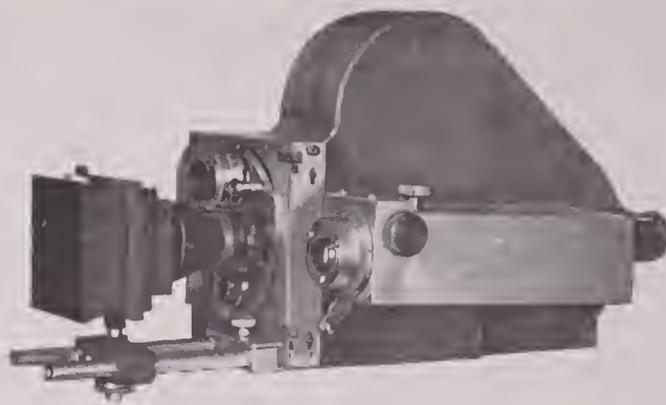
The thing that immediately strikes the observer in watching these scenes on the screen is the absence of artificiality in the lighting that so often characterizes scenes photographed in deep shade. Boyle's lighting is subtle. He projected just enough light into these scenes to produce separation, using Brutes powered by a portable thousand-amp generator. He employed no sunlight reflectors. The quality of the lighting was achieved to great extent by the right combination of filter gels and diffusers used with the Brutes. Sunlight, however, supplied the bulk of the lighting—sunlight filtering down through the trees or reflected from the ground or nearby buildings or objects. Among the shots marked for photographic excellence are those where McCrea and the boys are riding through the forest on horseback. Here no light was used other than the shafts of sunlight which found their way through openings among the trees.

In the climactic fight sequence, the low camera technique was again employed. This fight between McCrea and stocky John Russell was staged on the slope of a hill. The camera was placed to "look up" at the fighters. This had two purposes: it accentuated the action and lent a sense of added bigness to the battlers. It also avoided picking up with the camera any of the distant background objects, leaving a clear blue sky for a backdrop.

Boyle used a wide angle lens on over 95 per cent of the shots, even for most closeups. When he did employ a lens of longer focal length, he purposely subdued background lighting to offset any suggestion of shallow depth of focus inherent in the longer focal lens.

There is nothing new in any of the techniques described here, of course. They are familiar to most directors of photography. But not all photographers perhaps have had opportunity to so consistently employ them. Boyle credits U-I's pro-

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duction manager Jim Pratt and especially director Hugo Fregonese for making possible the good photography of "Saddle Tramp." Obviously, a cinematographer can accomplish more, given unlimited cooperation, than where false economy measures hamper the camera planning of a picture.

"Fregonese is a 'cameraman's director,'" Boyle said. "He sees eye-to-eye with me in picture composition and understands the value of the right camera angle to enhance a particular bit of action. It may be written in the script one way, but if he can be shown a better way, he'll verify it by checking through the camera viewfinder and go along with the suggestion.

"Joel McCrea also did a lot to ease the way for our camera crew. He, too, is a cinematographer's favorite, unspoiled by many years before a movie camera. He didn't ask for nor did he want any

special glamourizing lighting. He insisted on looking just as he is, without being 'prettied up' with special lighting or the killing of shadows, etc. As a result, McCrea appears the genuine, virile personality he is in real life."

Perhaps the real success of the photography, Boyle will tell you, was insured in the early stages of planning the picture. He was present and consulted during all pre-production planning. As a result of working closely with the producer, director, art director and set designer, he was able to thoroughly visualize the entire picture and to plot the photography in advance.

"Admittedly," he says, "no cameraman can do his best when put to work on a picture 'cold' without much more information than he gains from reading the script. Being able to aid in the planning of a production nets the best results for all concerned."

FILMING WITH PERSPECTIVE CONTROL

(Continued from Page 313)

make up for lost detail in the electronic processes.

The ability of wide-angle lenses to increase apparent subject motion to and from the camera can be used rather forcefully at times. A train roaring at the camera is given impetus if shot with a short lens, and T.V. commercials with their zooming boxes of the sponsor's product are a logical user of this type of objective. Dolly shots are best done with a short lens if the photographer isn't equipped with a professional dolly and tracks. The shorter the lens, the less the dolly need be moved to produce the same amount of image size change.

When you're shooting outdoors, the shorter lenses tend to give you more foreground and the longer lenses less. If you're filming some beautiful gardens in 16mm., by all means use a 15mm. or 17mm. lens on the long shots. The gardens will be made to appear much more spacious. More ground in any shot is also obtained by heightening the camera and tilting down slightly. Conversely, ground near the camera can be eliminated by using a lower angle and tilting up a bit. This is useful to remember when your shot in finder looks cluttered up with foreground.

Sets that would look cramped with a normal lens are made to appear larger with the wide angle. People are apparently separated and the walls of the room are not so enclosing. Most commercial and T.V. films are made on slim budgets these days, and if larger-looking sets are desired, the cinematographer can well cooperate with the art director by using

shorter lenses and slightly lower angles when possible.

Almost every 16mm. camera is supplied with a 1-inch lens as "standard." The perspective obtained with it seems to be what the eye sees. Therefore, it's a good safe lens to use when in doubt, and much of the other time, too. There's very slight danger of the awkward distortions that can occur with the short lenses, and they can be counted on to give a satisfactorily-rounded image. Because the photographer must be about 18 feet from the subject to get a full head-to-feet scene, the normal lens can be very easily used for candid work.

Most closeups in feature pictures are made with a 75mm. lens. The stars' faces are reproduced flatteringly and the photographer doesn't have to work with his camera within two or three feet of the players. Lighting, too, is made easier thereby. The available equivalents in 16mm. lenses are: 35mm. or 40mm. and 2". Except for a few persons with rather flat faces, almost everyone looks better when photographed in closeups with the longer focal lenses.

Long-shots made with the longer lenses have a tendency to look "cluttered" if there are several different planes of subject matter in the frame. Pictures of traffic congestion are made to look even worse, for example. And marching soldiers in some 35mm. documentaries have been made to appear more concentrated by being photographed with six- and eight-inch lenses.

For professional work, especially when the work is to be done with color film,

it is advisable for the photographer with a full complement of lenses of varying focal lengths to have the lenses re-calibrated for light transmission. Thus, if he has established a light reading of, say, $f/8$, for a scene, he can shoot long shot, medium shot and closeups, using his different lenses with the confidence that setting each at $f/8$ will render uniform exposure. It is not uncommon that a photographer will find even his top quality lenses varying as much as a full stop. It would indeed be shortsighted to equip one's camera with a wide range of lenses, to achieve complete perspective control, and not safeguard photographic quality through recalibration of the lens stops.

SHOOTING 16MM. COLOR FOR BLOWUP TO 35MM.

(Continued from Page 308)

than its original in certain respects, there are factors such as original sharpness and contrast which are definitely limited by the way they appear on the 16mm. strip.

"In a blow-up to 35mm.," he explains, "every little error or oversight in shooting is magnified many times. For this reason a scene that has a passable or even attractive softness in the 16mm. original becomes unpleasantly fuzzy when blown up to 35mm. For this reason, the cameraman shooting for blow-up must check the calibrations of each lens to make sure they are accurate. New lenses especially should be given precise focus tests before shooting begins. A 35mm. blow-up can only be as sharp as its 16mm. original."

The bane of the technician's existence is 16mm. original which enters his lab with tiny scratches or cinch marks; these are almost certain to be exaggerated in the blow-up process. Because of this, it is highly recommended that 16mm. slated for blow-up be lacquered before being handled at all. This process puts a hard scratch-resistant finish on one or both sides of the film, protecting it from abrasion and tending to fill in small scratches that already exist. But even when lacquered, original film should be handled with utmost care — and then only when the editor is wearing clean editing gloves.

In order to insure the best results when filming for blow-up, there are certain precautions which should be observed. Firstly, any optical printing process tends to increase contrast over that of the original. For this reason, the 16mm. Commercial Kodachrome emulsion should be used as shooting stock because it is a special low-contrast emulsion specifically designed for duplication. For the same reason, the lighting in scenes

(Continued on Page 327)

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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, "Short Grass," with Rod Cameron, Cathy Downs, Raymond Walbrun, and Johnny Mack Brown. Leslie Selander, director.

Columbia

• LEE GARMES, "The Hero," (Sidney Buchman Enterprises) with John Derek and Aldo Da Re. David Miller, director.

• JOSEPH WALKER, "Born Yesterday," with Broderick Crawford, Judy Holliday, William Holden, and Millard Mitchell. George Cukor, director.

• WILLIAM SNYDER, "The Flying Missile," with Glenn Ford, Viveca Lindfors, Henry O'Neill, Anthony Ross and Richard Quine. Henry Levin, director.

• LESTER WHITE, "When the Redskins Rode," with Jon Hall, Mary Castle, Pedro de Cordoba and Sherry Moreland. Lew Landers, director.

• CHARLES LAWTON, "The Romantic Age," with Margaret O'Brien, Allen Martin, Jimmy Hunt, Sharyn Moffett and Lloyd Corrigan. Seymour Friedman, director.

• PHILLIP TANNURA, "Flame Of Stamboul," with Richard Denning, Lisa Ferrady, Don Randolph, George Zucco and Nestor Paiva. Ray Nazarro, director.

Eagle-Lion

• JACK GREENHALGH, "Rogue River," with Rory Calhoun, Jane Lidell, Peter Graves, and Frank Fenton. John Rawlins, director.

• ELMER DYER, "Border Raiders," with Spade Cooley, Maria Hart, Gordon Barnes, and Bill Kennedy. Richard Talmadge, director.

Independent

• JACK CARDIFF, "Pandora And The Flying Dutchman," (Lewin-Kaufman Prod., shooting in Europe) with James Mason, Ava Gardner. Albert Lewin, director.

• STEWART THOMPSON, "At War With The Army," (York Prod.) with Dean Martin, Jerry Lewis, and Polly Burgen. Hal Walker, director.

M-G-M

• ROBERT PLANCK, "Royal Wedding," (Technicolor) with Fred Astaire, Jane Powell, Peter Lawford, Sarah Churchill and Keenan Wynn. Stanley Donen, director.

• ROBERT SURTEES and WILLIAM SKALL, "Quo Vadis," (Shooting In Italy) with Robert Taylor, Deborah Kerr. Mervyn LeRoy, director.

• PAUL VOGEL, "Three Guys Named Mike," with Jane Wyman, Van Johnson, Howard Keel, Phyllis Kirk and Jeff Donnell. Charles Walters, director.

• GEORGE FOLSEY, "Mr. Imperium," (Technicolor) with Lana Turner, Ezio Pinza, Marjorie Main, Sir Cedric Hardwicke and Nina Koshetz. Don Hartman, director.

• WILLIAM MELLOR, "Across The Wide Missouri," (Technicolor) with Clark Gable, Maria Elena Marquez, John Hodiak, Ricardo Montalban, James Whitmore, Adolphe Men-

jou, J. Carroll Maish, Jack Holt and Doug Fowley. William Wellman, director.

• ALFRED GILKS, "American In Paris," (Technicolor) with Gene Kelly, Leslie Caron, Georges Guetary, Nina Foch and Oscar Levant. Vincente Minnelli, director.

• HAL ROSSON, "Red Badge of Courage," with Audie Murphy, Bill Mauldin, Royal Dano, Douglas Dick, and Arthur Hunnicutt. John Huston, director.

Monogram

• HARRY NEUMANN, "Texas Raiders," with Johnny Mack Brown, Jane Adams and Riley Hill. Lewis D. Collins, director.

• MARCEL LEPICCARD, "The Bowery Thrush," with Leo Gorcey, Huntz Hall, Adele Jergens, and Phyllis Coates. William Beaudine, director.

Paramount

• LOYAL GRIGGS, "Passage West," (Pine-Thomas Prod.) with John Payne, Dennis O'Keefe, Arleen Whelan, Frank Faylen, Mary Beth Hughes. Lewis R. Foster, director.

• CHARLES LANG, "Ace In The Hole," with Kirk Douglas, Jan Sterling, Porter Hall, and Richard Benedict. Billy Wilder, director.

• DANIEL FAPP, "The Lemon Drop Kid," with Bob Hope, Andrea King, Fred Clark, Marilyn Maxwell and Lloyd Nolan.

• JOHN SEITZ, "The Goldbergs," with Gertrude Berg, Philip Loeb, Eli Mintz, Larry Robinson and Barbara Rush. Walter Hart, director.

• RAY RENNAHAN, "Warpath," (Technicolor) (Nat Holt Prod.) with Edmond O'Brien, Dean Jagger, Forrest Tucker and Harry Carey, Jr. Byron Haskin, director.

• GEORGE BARNES, "Carrie," with Laurence Oliver, Jennifer Jones, Eddie Albert, Ruth Warrick, Basil Ruysdael and Mary Murphy. William Wyler, director.

R.K.O.

• ROY HUNT, "Footlight Varieties," with Jack Paar, Red Buttons, Nicco and Grace, Wendy Waldron and Herb Vigran. George Bilson, director.

• EDWARD CRONJAGER, "Best Of The Badmen," (Technicolor) with Robert Ryan, Claire Trevor, Jack Buetel, Robert Preston and Walter Brennan. Wm. Russell, director.

• GEORGE DISKANT, "The Gaunt Woman," with Dana Andrews, Claude Rains, Carla Balenda, Philip Dorn and Eric Feldary. Alfred Werker, director.

• HARRY WILD, "Macao," with Robert Mitchum, Jane Russell, William Bendix, and Thomas Gomez. Josef von Sternberg, director.

20th Century-Fox

• JOE McDONALD, "Fourteen Hours," with Paul Douglas, Richard Basehart, Deborah Paget, Jeff Corey, Agnes Morehead. Henry Hathaway, director.

• JOSEPH LASHALLE, "The Jackpot," with James Stewart, Patricia Medina, Alan Mowbray, James Gleason, Natalie Wood. Walter Lang, director.

• LLOYD AHERN, "For Heaven's Sake," with Clifton Webb, Joan Bennett, Robert Cummings, Edmund Gwenn, and Joan Blondell. George Seaton, director.

• ARTHUR ARLING, "Call Me Mister," (Technicolor) with Betty Grable, Dan Dailey, Danny Thomas, Dale Robertson, Frank Fontaine, and Benay Venuta. Lloyd Bacon, director.

• MILTON KRASNER, "Half Angel," (Technicolor) with Joseph Cotten, Loretta Young, Cecil Kellaway, Basil Ruysdael and John Ridgely. Jules Dassin, director.

• WINTON HOCH, "Bird of Paradise," (Technicolor) with Louis Jordan, Debra Paget, Jeff Chandler, Everett Sloane. Delmer Daves, director.

• LUCIEN BALLARD, "House On Telegraph Hill," with Valentina Cortesa, William Lundigan, Richard Basehart and Fay Bainter. Robert Wise, director.

United Artists

• FRANK PLANER, "Cyrano de Bergerac," (Stanley Kramer Prod.) with Jose Ferrer, Mala Powers, William Prince and Morris Carnovsky. Michael Gordon, director.

Universal-International

• CARL GUTHRIE, "Undercover Girl," with Alexis Smith and Scott Brady. Joseph Pevney, director.

• CLIFFORD STINE, "Mystery Submarine," with Macdonald Carey, Marta Toren, Robert Douglas and Ludwig Donath. Douglas Sirk, director.

• PEVERELL MARLEY, "Illegal Bride," (Fidelity Pictures) with Ginger Rogers, Jack Carson, Joan Davis and Stanley Ridges. Richard Whorf, director.

• IRVING GLASSBERG, "The Fat Man," with J. Scott Smart, Julie London, Rock Hudson, Clinton Sundberg, and Jayne Meadows. William Castle, director.

• CHARLES BOYLE, "Apache Drums," (Technicolor) with Stephen McNally, Coleen Gray, Willard Parker and Arthur Shields. Hugo Fregonese, director.

• WILLIAM DANIELS, "Lights Out," with Arthur Kennedy, Peggy Dow, James Edwards, and Rock Hudson. Mark Robson, director.

• MAURY GERTSMAN, "Prisoner Of War," with Mark Stevens, Robert Douglas, Alex Nicol, Gig Young and Johnny Sands. George Sherman, director.

Warner Brothers

• WILFRED CLINE, "Raton Pass," with Dennis Morgan, Patricia Neal, Steve Cochran and Scott Forbes. Edwin L. Marin, director.

• SID HICKOX, "The West Point Story," with James Cagney, Virginia Mayo, Doris Day, Gordon MacRae, Gene Nelson. Roy Del Ruth, director.

• ROBERT BURKS, "The Enforcer," (United States Pictures) with Humphry Bogart, Roy Roberts, Ted de Corsia and Bob Steele. Bretnaine Windust, director.

• LIONEL LINDON, "Only The Valiant," (Cagney Prod.) with Gregory Peck, Jeff Corey, Ward Bond, Terry Kilburn, Lon Chaney, Jr. Gordon Douglas, director.

• HARRY STRADLING, "Streetcar Named Desire," (Chas. K. Feldman Group Prod.) with Vivien Leigh, Marlon Brando, Kim Hunter. lia Kazan, director.

• ERNEST HALLER, "Jim Thorpe, All-American," with Burt Lancaster, Charles Bickford, Phyllis Thaxter, Steve Cochran. Michael Curtiz, director.

SHOOTING 16MM. COLOR FOR BLOWUP TO 35MM.

(Continued from Page 325)

slated for blow-up should be kept relatively flat unless low-key or special effects are desired.

Theoretically, all color layers in a monopack emulsion should have the same degree of contrast — but sometimes this isn't so. In such cases one or more of the color separation negatives used for blow-up can be specially treated to cut down the harsh contrast and bring the print more nearly into balance.

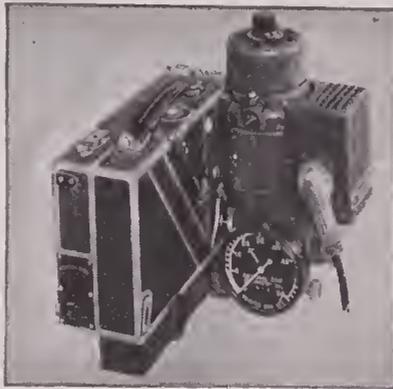
We have pointed out above how even lenses produced by the best manufacturers sometimes vary in calibration and resolving power — hence the necessity for preliminary tests. Also, it is a characteristic of wide-angle lenses (even the best) to be inherently less sharp than other focal lengths. With this in mind, most experienced cameramen try to avoid wide-angle set-ups when shooting for blow-up. They also try to stay in as close as possible to the subject, since close-ups reproduce much more clearly than long shots.

As far as exposure is concerned, the best results are obtained from scenes with correct normal exposure — but if there is any variation it should be on the heavy side, since there is a much better chance of correcting from a full-bodied original than from one that is washed out. Blue and green tend to go darker in the blow-up process, so it is a good idea to slightly overexpose marine scenes and others where there is a predominance of such shades. Similarly, in designing sets and costumes it is advisable to keep blues and greens on the light side.

In scenes where people are included, the safest rule is to expose for the flesh tones, since this is the one color which will look really odd to an audience if it is not faithful. Wherever possible, try to balance the lighting of the background to coincide with the flesh tone exposure — but where this is impossible and people are prominent in the scene, it is still better to favor them and sacrifice the background.

Where budget is sparse and a 35mm. release is still desired, many producers are now blowing up 16mm. originals to black and white 35mm. In this process one or more fine grain negatives are made complete with dissolves and other effects. The release prints are made directly from the negative through regular contact printing. Proper selection of negative stock and precise control in printing insure good tone gradation without a build-up in contrast. Here, again, a sharp, well-timed original will insure a blow-up of good technical quality.

(Continued on Page 329)



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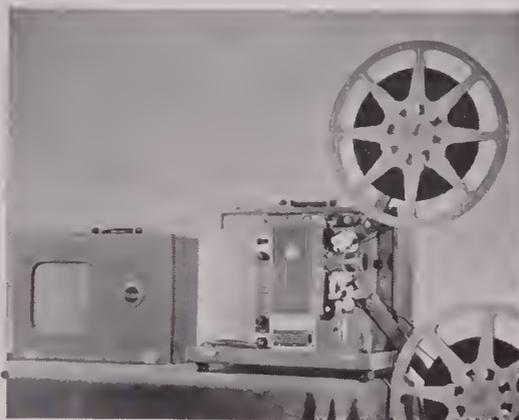
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Film Price Increase

Manufacturers of DuPont motion picture film announce that increasing costs of production make it necessary for company to raise prices of nitrate motion picture film an average of 5.3 per cent. Change became effective with shipments as of August 7th. Nitrate release positive was increased from \$11.00 to \$11.50 per thousand feet, before taxes; nitrate sound stock from \$13.00 to \$14.50 per thousand feet. Safety film stock prices remain unchanged.

New Kodak 16mm. Projector

Eastman Kodak Company announces a new, compact and lightweight Kodascope sound projector. Tradenamed the Pageant, it is priced at \$325.00 complete with Lumenized 2-inch f/1.6 Ektanon lens. Weight is less than 33 pounds. Both



speaker and projector are built into the single-unit case. A 750-watt lamp is furnished, but a 1000-watt lamp may also be had. Reduction of number of moving parts, say Eastman engineers, accounts for projector's smooth, quiet running. Gears are made of Nylon and film rollers are made of Tenite. Bearings are either oil-impregnated or ball bearings with sealed-in lubricant. Sound head is rotary type with drum and solid flywheel.

Filter Data Book

"Filters And Lens Attachments" is title of valuable new book announced by Eastman Kodak Company, which will prove valuable to photographers in all branches of the art.

Compact publication runs the gamut from simple filters intended for amateur use to specialized Wratten Filters for scientific and technical purposes. More than 200 different filters are covered in publication, also combination lens attachments, etc. Liberally illustrated and

carefully indexed, book is available at all Kodak dealers. Price is 50 cents per copy.

Hi-Speed Wide-Angle Lens

A new wide-angle Balowstar lens has been announced by F. G. Back Video Corp., New York, for use with 16mm.



cameras. Providing speed to spare, this f/1.3, 15mm. 12-element coated lens makes possible excellent results under adverse light conditions. Lens may be used on any turret-mounted camera without interference with other lenses.

Film Processor

An automatic 16mm. film processing machine priced under \$100.00 has been announced by S.O.S. Cinema Supply Corp., New York City. Tradenamed the Bridgamatic, model fits needs of TV stations, and producers of 16mm. TV, educational and industrial films. Overall size of apparatus is 51" long, 21" high by 23" wide. Features include patented overdrive, air squeegee, built-in dry box,



heating elements and neoprene lined steel tanks of two-gallon capacity.

Positive film may be developed at rate of 600 ft. per hour; negative at 160 ft. per hour, using but one gallon of solution.

Fixed-Focus Magazine "8"

For those movie amateurs who like the convenience of magazine loading plus the simplicity of a fixed-focus lens, Eastman Kodak Company has introduced a

new version of its popular Cine-Kodak Magazine 8 camera. Body and mechanism are the same as current model but the finder has been changed to one designed for use with a fixed-focus lens, plus an interchangeable telephoto lens recommended for use when long focus effects are desired.

New model is fitted with a 13mm. f/2.7 Lumenized Ektanon lens in bayonet mount and is priced at \$127.50.

New T. T. H. 16mm. Lens

Bell & Howell Company announces a new Taylor, Taylor & Hobson 4-inch lens for 16mm. cameras, made to their specifications, which is reported nearly 50% faster than any similar lens on



market. Lens will fit any 16mm. movie camera with screw-type lens mount. Tradename of new lens is Panchrotal 4-inch T-2.5, and features click stops and depth of field scale. For further data and price, write Bell & Howell Company, 7100 McCormick Road, Chicago 45, Ill.

KEEPING UP WITH PHOTOGRAPHY

(Continued from Page 302)

now processes his own color films can use the new film to produce anywhere from one to 10,000 duplicates, all equal in color and quality. Material is available in sheets from 4 x 5 inches up to 16 x 20 inches. It may be processed in the regular Kodak Ektacolor Processing chemicals.

PRINCIPLES OF COLOR SENSITOMETRY is a basic text just released by the Society of Motion Picture and Television Engineers to cover for the first time this science which is basic to color motion pictures. It deals at length with the instruments available for use in color research and for quality control in prac-

tical use of color processes now enjoying commercial success. The practical achievement of photography in natural color as compared with theoretical possibilities and the areas where further research is required are stated with great competence.

Technical knowledge and guidance provided by this text, which is a cooperative committee production, will be helpful to the motion picture industry, as well as to color television, still photography in natural color, and in the graphic arts where color is one of the most valuable tools. It forms a foundation for development of common language among the users of color film and will help guide industrial practices during future years in the direction of standardization of many aspects of color sensitometry.

In its 72 pages, *Principles of Color Sensitometry* contains sections on: Sensitometric Exposures; The Processing of Sensitometric Tests; Quantitative Evaluation of the Image; Densitometer Design Principles; Transformations Between Integral and Analytical Densities; Interpretation of Sensitometric Results; Statistical Aspects of Color Sensitometry; and References. The report was published in the Society's *Journal* in June, 1950; separately bound copies, nicely reprinted, are now available at \$1.00 from the S.M.P.T.E., 342 Madison Ave., New York 17, N.Y.

SHOOTING 16MM. COLOR FOR BLOWUP TO 35MM.

(Continued from Page 327)

A great many foreign countries are beginning to use 16mm. color blow-up as a means to achieve 35mm. theatrical release for features without having to take on the prohibitive cost of 35mm. color production. A recent film photographed in Kodachrome by a studio located in Bombay, India, was sent to Hollywood for blow-up to 35mm. It featured spectacular ensemble scenes with many actors and animals in trappings of typical Oriental splendor — and it was filmed rapidly and inexpensively with 16mm. equipment.

No one in Hollywood even supposes that 16mm. color blow-up will ever replace 35mm. color production as a standard operating procedure — since there is undeniably some difference in quality, especially to the technician. But the method allows use of portable 16mm. equipment, particularly in outdoor locations where haulage of equipment and complicated set-ups constitute a time and budget problem. And it offers to the independent producer a chance to achieve 35mm. release for features and short subjects in color at a minimum cost.

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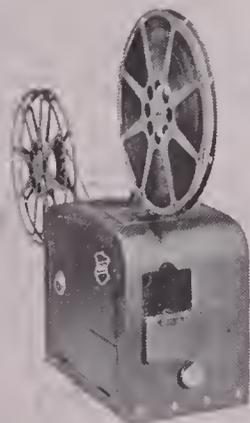
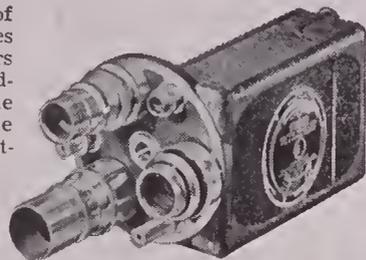
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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY



THIS MONTH:

Choosing A 16mm. Camera For Professional Work

**OCTOBER
1950**



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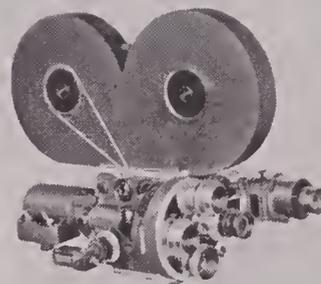
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ON THE COVER

LANA TURNER and Ezio Pinza (far left) are the stars of this back stage scene from Metro-Goldwyn-Mayer's "Mr. Imperium," Technicolor musical which introduces Pinza to the motion picture public. Under ladder, director Don Hartmann can be glimpsed, with director of photography George Folsey, A.S.C., to Miss Turner's left. Assistant director Jack Greenwood is in background to Pinza's left. Note the use of foliage to cast feathery shadows into the scene.

— Photo by Eric Carpenter.

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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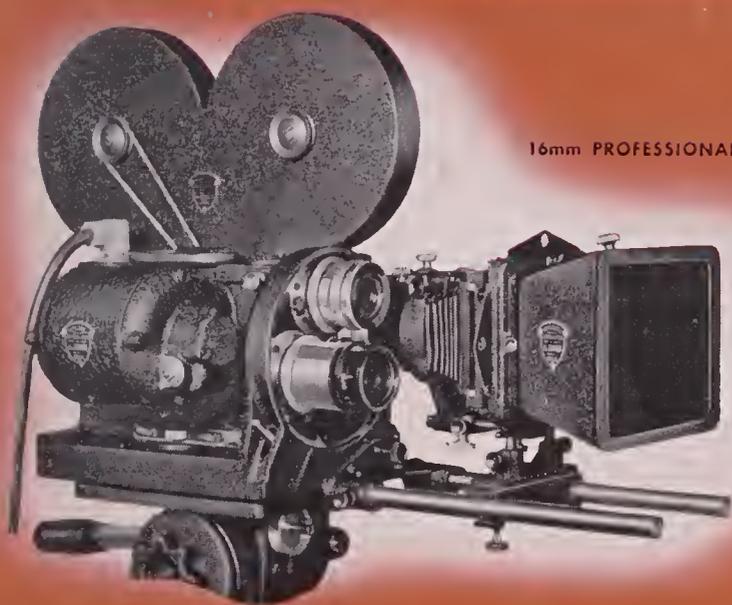
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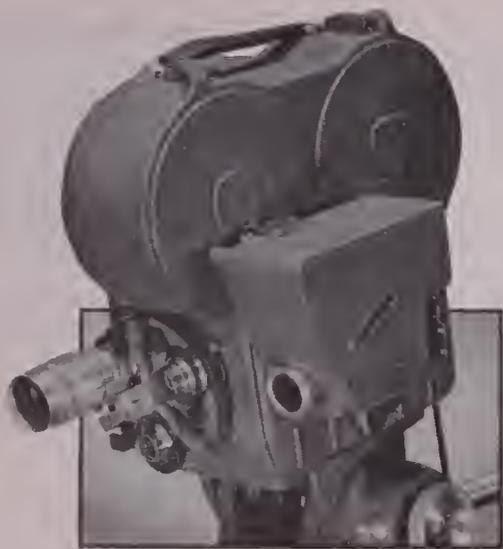
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Hollywood Bulletin Board



Harry Jackson A.S.C

Harry Jackson, A.S.C., won the American Society of Cinematographers' "Picture Of The Month" award for July for his photography of Metro-Goldwyn-Mayer's Technicolor musical, "Three Little Words." Jackson was borrowed from 20th Century-Fox to direct photography of this picture, the first time he has worked away from his home lot in a long time. Jackson has photographed such recent 20th Century-Fox hits as "A Ticket To Tomahawk," and "American Guerillas In The Philippines," and is currently directing the Technicolor photography on "Wild Winds" for the same studio. Jackson becomes the fourth T-C-F cinematographer to receive an ASC award this year.

Millions of Radio Listeners, the evening of September 23rd, heard explained for perhaps the first time the meaning of the initials, "A.S.C.," which regularly appear after the name of the director of photography on credit titles of motion pictures, indicating that he is a member of the American Society of Cinematographers.

Occasion was the salute to members of the Society, their wives and guests by the radio program "Hawaii Calls," during progress of the Society's Annual Ladies Night Dinner And Dance. Motif for the party was Hawaiian, with many guests dressed in gay Hawaiian costumes, feasting on Hawaiian food and dancing to Hawaiian music. The radio program, originating in Honolulu, was beamed

to the mainland by shortwave, then rebroadcast throughout the U.S. by the Don Lee Network. Guests were enabled to hear a repeat of the broadcast later the same evening through arrangements by Fred Jackman, Sr., A.S.C., who secured and played an original transcription of the program.

A series of aptitude tests in camera, lighting, sound, editing, writing and directing are available to the public as the basis for awarding scholarships totaling \$2670.00, by the New Institute for Film and Television, New York City. Scholarships will be given for the Day School to the first twelve contestants with the highest ratings. Tests may be obtained by writing to the Scholarship Chairman at the School's studios, 29 Flatbush Avenue, Brooklyn 17, New York.

Departing from the traditional format of its semiannual convention programs, the Society of Motion Picture and Television Engineers will introduce several innovations in a streamlined tentative schedule for the Society's 68th Semi-annual Convention, to be held at the Lake Placid Club, Lake Placid, N. Y., October 16 to 20 inclusive.

A comprehensive and richly varied selection of the latest technical advances

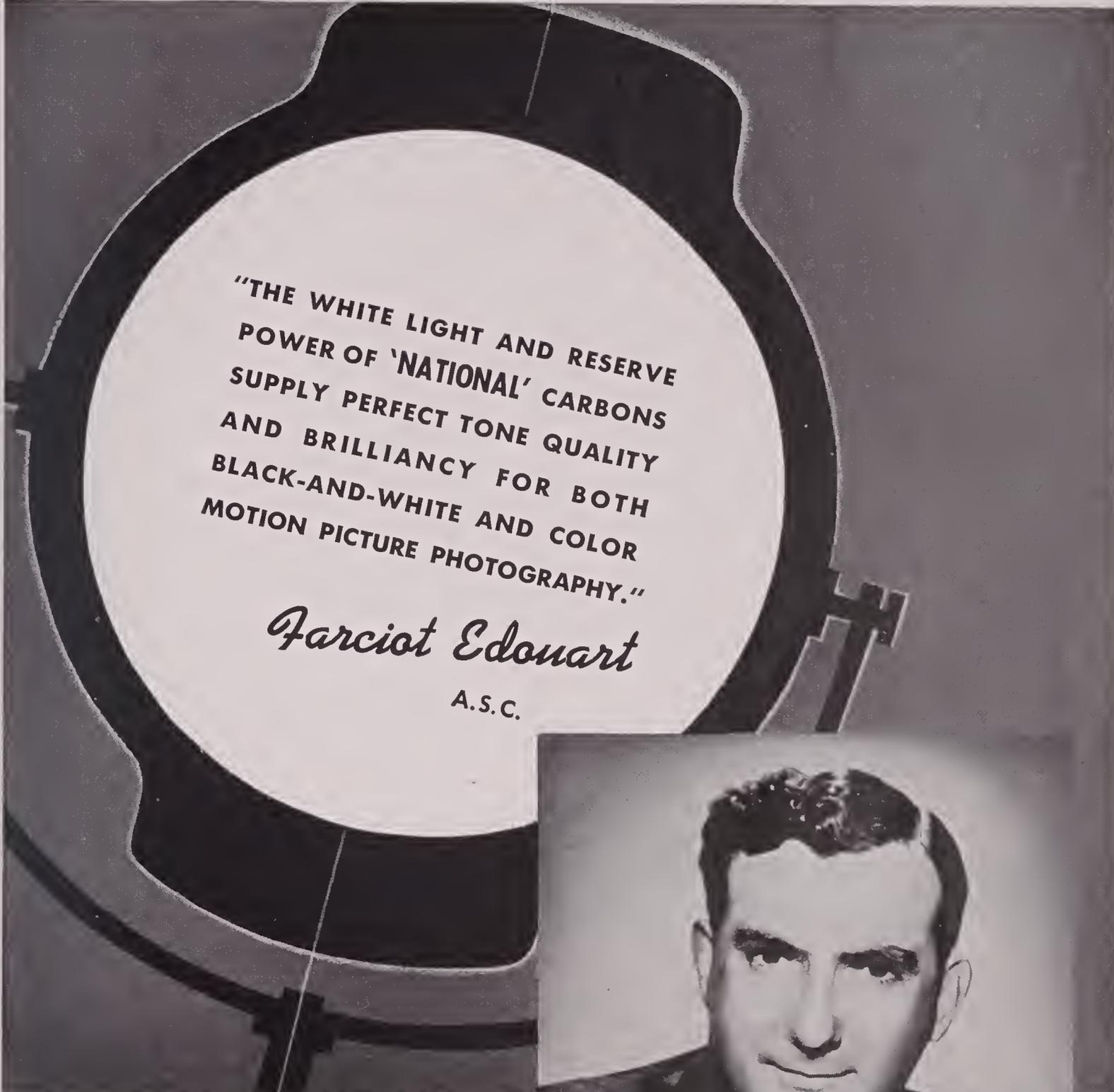
(Continued on Page 365)

VINCENT FARRAR

Members of the American Society of Cinematographers were saddened by the passing September 25 of Vincent Farrar, 50, veteran director of photography since inception of sound films. Farrar died at the Motion Picture Country Home following a long illness. He leaves his widow Dixie.

Vincent Farrar had been a member of the A.S.C. since October, 1945. During World War II he was in charge of photography at the U. S. Navy Photo Services Dept. in Hollywood, and also served three years active duty in the U. S. Navy Bureau of Aeronautics as photographer. Earlier he had been a newsreel cameraman for Fox and also Pathe News and at one time was in charge of photography for Fox east coast studios.

He directed photography on feature films for Monogram, Samuel Goldwyn, Alexander Korda and David Selznick, finally landing on the Columbia Pictures' lot where he had been one of that studio's top directors of photography for several years at the time of his death.



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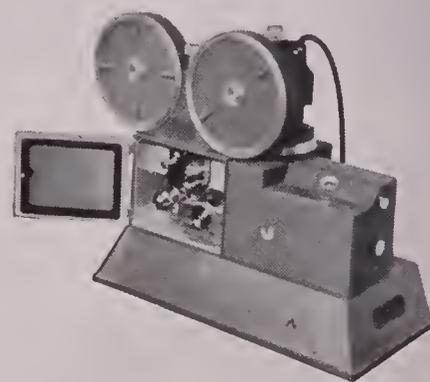
Its PRECISION first of all, responsible at all times for the absolutely accurate registration which means perfectly steady pictures, thanks to the exclusive Maurer intermittent movement.

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Dolly For Filming Football

Giant elastic rubber ropes power dolly used to photograph closeup action of football plays for Columbia's "The Hero."

By FREDERICK FOSTER

WHEN A SCRIPT calls for scenes of a football game, one of the major problems encountered in photographing players in action on the field is that it isn't possible for the camera to work close enough nor to be sufficiently mobile to follow spontaneous and often unpredictable action during a real game.

In an effort to get more realism in such shots, some companies have mounted several cameras high in the grandstand and used telephoto lenses of extraordinary length, the same as newsreel cameramen. While more realistic scenes were thus obtained, they were too flat to match footage with greater contrast shot at closer ranges with lenses of shorter focal length. This posed an added problem when it came to editing the film that could not be overcome by either the laboratory or film cutter.

Better results have been secured more recently with the aid of a special camera dolly propelled on the field through the use of large elastic rubber ropes. Lee Garmes, A.S.C., was the first to use the dolly in shooting scenes for Columbia Pictures' "The Hero." The dolly, pictured above, permits a camera operator to stand upright and film the action with a Cunningham combat camera. A metal framework provides support for the operator. Propulsion of the dolly by the strong elastic ropes follows the same principle used in getting sailplanes and gliders into the air: the ropes are attached to front of the dolly, then



DIRECTOR of photography, Lee Garmes (wearing helmet) checks preparation of dolly and camera before dolly is released for action shot. Operator Kit Carson, standing inside supporting framework, will shoot grid action with hand-held Cunningham battery-driven camera.

stretched taut while the dolly is anchored. Once the dolly is released, the elastic ropes pull it forward at speed about equal that of a player running free on the field. Just why this method of powering the dolly was used will be explained in more detail later.

Origin of the dolly followed Columbia Pictures' decision to get more realistic shots of gridiron action in "The Hero"

(Continued on Page 362)



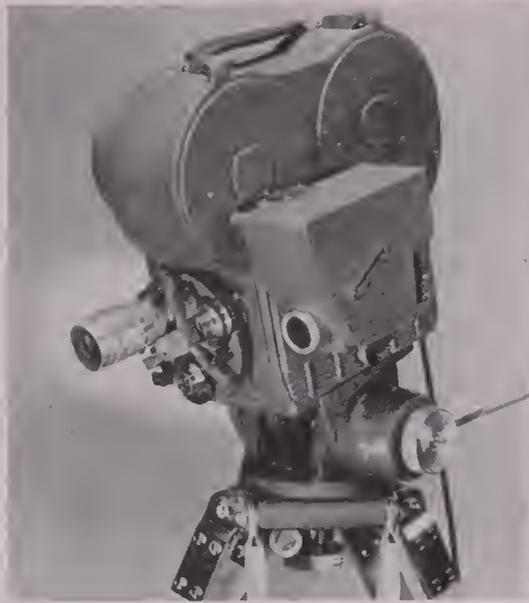
OPERATOR Carson shoots action on playing field from moving dolly as it is pulled by elastic shock ropes. Grips running alongside, control speed of dolly, brake speed in case of mishap.



FRAME ENLARGEMENT of typical action shot secured by shooting with hand held camera from moving dolly on playing field. Dolly, moving with same speed as players, keeps camera at close range.



MITCHELL 16MM. PROFESSIONAL



AURICON-PRO



BELL & HOWELL FILMO 70 DA



BELL & HOWELL FILMO 70 H



BELL & HOWELL FILMO SPECIALIST



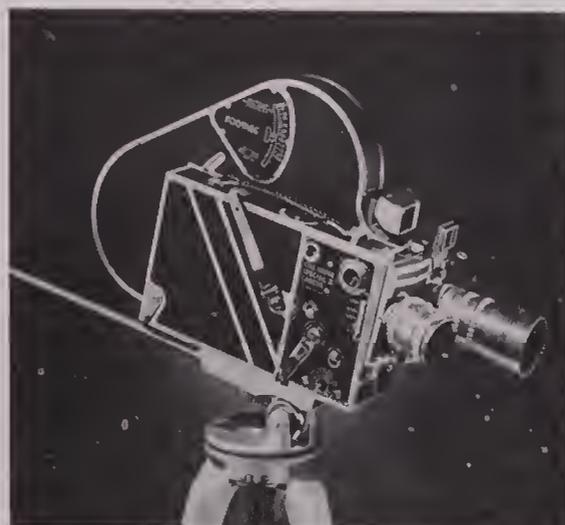
BOLEX H-16

Choosing A 16mm. Camera For Professionals

An illustrated digest of the eleven cameras in popular use today in the production of 16mm. industrial, educational and television films . . .



MAURER PROFESSIONAL 16



CINE-KODAK SPECIAL II



AURICON CINE-VOICE

RECENTLY, a Hollywood motion picture trade paper noted that more than 250 sixteen millimeter film producers were now engaged in production of films for television. Actually, if all the little individual video film producers are taken into account, the number is probably twice this figure — with more entering the field daily. Then consider the scores of industrial, educational and promotional film producers in the country and it adds up to a sizeable number of 16mm. cameras grinding out film each week.

Today, according to a recent survey by *American Cinematographer*, there are eleven different 16mm. cameras being used regularly in the production of 16mm. commercial films. Choice of a camera for this work usually depends upon the type of films to be produced — whether in a studio or in the field — and the budget available for purchase of camera or cameras. Cost, however, is not always the prime factor in obtaining the best photography. Other factors such as lenses and skill of the cameraman invariably affect the final result. Marketable 16mm. films, it has been noted, are being photographed with cameras costing less than \$200.00 exclusive of lenses.

The larger cameras, of course, have refinements not found in the smaller, more compact cameras and are more adaptable for studio production shooting where schedules and practice more nearly approximate those of feature film studios.

For readers pondering the question: "What 16mm. camera shall I buy?"

By LEIGH ALLEN

★ ★ ★ ★ ★ ★ ★ ★

American Cinematographer presents here brief and comparative descriptions of the eleven cameras mentioned above. The order in which the cameras are illustrated on the opposite page in no way implies preference nor superiority over the others, and the descriptions that follow are in alphabetical order as a matter of convenience. Prospective camera purchasers are invited to write the manufacturers for catalogues and further details.

Auricon-Pro Sound Camera — The basic model CM-71 is a single system sound-on-film recording camera that records the photographic image and the sound track on the same film simultaneously. A built-in galvanometer records a track of variable area. Film capacity is 200 feet affording use of either standard daylight loading spools of film up to 200 feet in length or demountable Auricon 200 ft. film magazines. Camera is driven by a built-in 115-volt, 60 cycle AC current synchronous motor. A 50 cycle, AC motor is also available. A 175° shutter gives an exposure interval of 1/50 sec.

Features of the camera, which is sound-proofed and therefore requires no external blimp, include: Sport frame viewfinder; two 200 ft. film magazines; set of lens shades and mounting rods; 50 ft. measuring tape; noise-reduction amplifier complete with tubes, batteries, headphones, high fidelity mike and all connecting cables, and single lens mounting.

Available as extra equipment is the Auricon Auto - Parallax View - Range Finder, which replaces the sport frame finder, and 3-lens turret. For the amplifier: portable power supply with generator driven by 12-volt storage battery,

which generates 115-volts, 60 cycle AC current.

Net weight of camera is 51 pounds, finished in gun metal crackle enamel. Price, less lens, is approximately \$1191. Without lens, amplifier and external sound accessories, price is about \$993.50. Available also is a silent film model, without magazines or recording galvanometer (which may be added later) at approximately \$644.50.

A special model "Auricon 1200," especially designed for long interval recording up to 1200 feet of 16mm. sound is available for \$2860.00. Manufacturer is Berndt-Bach, Inc., 7377 Beverly Blvd., Los Angeles 36, Calif.

Auricon "Cine-Voice" Sound Camera — A complete, low-priced single-system sound-on-film recording camera designed for the semi-professional and advanced amateur. It also has found wide use among many professionals. Weighing but 12½ pounds, the "Cine Voice" is patterned after its larger "Auricon-Pro" brother, with a built-in recording galvanometer producing a variable area sound track. Film capacity is 100 feet — taking standard 50- and 100-foot daylight loading rolls of single perforated film.

The basic model provides for a single "C" mount lens, but a 3-lens rotary turret may be installed for \$89.50, if ordered at time of purchase. The built-in motor is 110-volt, 60 cycle AC.

Other features include: footage indicator; viewfinder which covers all lens sizes from 15mm. up; and 15mm., 17mm., 1-inch and 2-inch lens mattes. Additional mattes for other lenses may be had at small additional cost. Finder has parallax adjustment, accurate down to 4 feet.

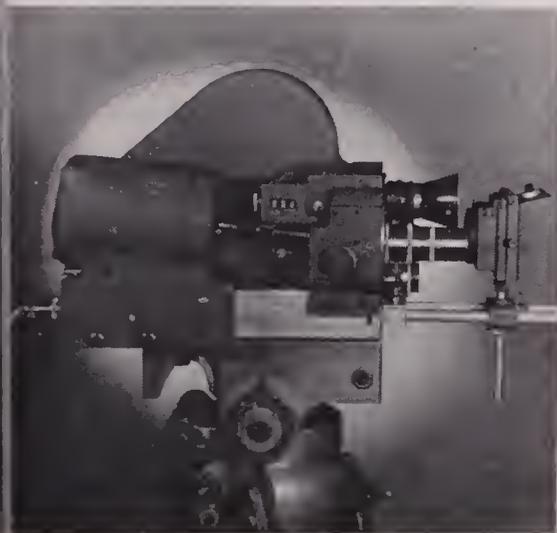
Complete outfit includes camera, as described, amplifier, with built-in control panel, microphone, microphone desk stand, necessary connecting cables and Fabricoid covered carrying case. Price without lens is \$695.00. Same manufacturer as the Auricon-Pro Sound Camera.

Bell & Howell Filmo 70 DA — The Filmo is one of the pioneer 16mm. cameras and the 70 DA is the basic model which, with the addition of certain accessories, becomes the 70 H or the Specialist models described in subsequent paragraphs.

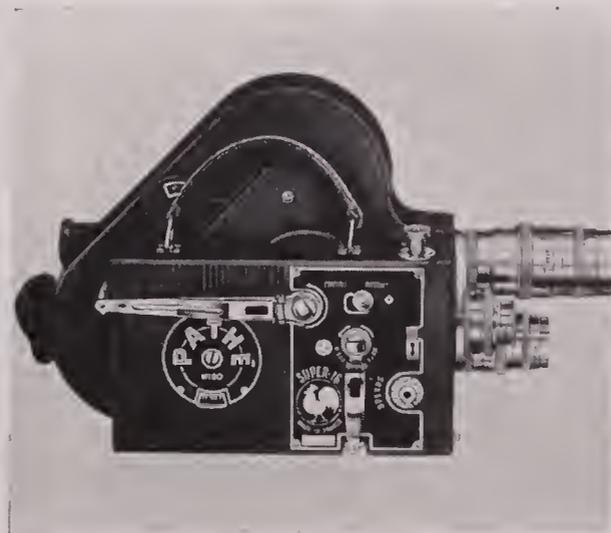
The 70 DA is spring-motor driven. One winding will expose 22 feet of film. The camera has seven film speeds: 8, 12, 16, 24, 32, 48 and 64 f.p.s. Each speed is accurately maintained throughout the run. The turret head, which is standard equipment, accommodates three lenses, permits instantaneous change from one lens to another. Spyglass-type finder gives brilliant upright image. Built-in

(Continued on Next Page)

Work...



NORD PROFESSIONAL



PATHE SUPER 16

mattes provide for masking finder for lens in use.

Critical focuser permits operator to look through taking lens to focus on object or scene. A 204° revolving disc shutter gives an exposure of 1/27 second at 16 f.p.s. In the film gate, side tension springs register the film at the aperture, eliminating need for surface tension springs. Footage dial accurately registers exposed film footage. Hand crank permits winding back film for double exposures, trick effects, etc. Film capacity is 100 feet, taking either 50- or 100-foot daylight loading spools of film. The die-cast aluminum frame is finished in bronze crinkle-baked enamel.

Price of camera equipped with 1" f/1.9 Super Comat lens in focusing mount and coated is \$329.70; with 1" f/1.5 Taylor-Taylor-Hobson Kinic in focusing mount, coated, is \$359.55. Manufacturer is Bell & Howell Company, 7100 McCormick Road, Chicago 45, Ill.

Bell & Howell Filmo 70 H — Essentially the same basic camera as the 70 DA except for the following additional features and equipment: Lens furnished as standard equipment is the 1" f/1.9 Super Comat, coated, in focusing mount; a positive turret viewfinder replaces the spyglass finder of the 70 DA, which has three positive finder objectives matching any three lenses on the camera turret. In addition, there is an upper rewind knob for use when considerable footage is to be wound back in the camera for long run double-exposures; a shutter stabilizer which keeps shutter operating at constant speed when synchronous motor is used to drive external film magazine; Veeder footage counter which accurately registers 1 to 999 feet of exposed film.

The following may be added to the camera to make it adaptable for more specific professional uses: External film magazine, either 200- or 400-foot capacity (Use of external magazines requires adding electric motor drive); electric motor, either 12, or 24 volt DC, affording speeds from 8 to 64 f.p.s., may be had at nominal cost. Also available are motors for 115 volt AC-DC affording speeds of 8 to 64 f.p.s., a 250 volt, 60 cycle AC motor for 24 f.p.s. speed.

A full upright-image viewfinder is also available. Standard etched field matches 25mm. lens, changes to 15mm. lens field with addition of wide angle objective. Other fields are obtained by insertion of transparent mattes. Focusing and parallax correction are fast and accurate.

Price of camera with f/1.9 lens is \$649.50.

Bell & Howell Filmo Specialist — This is the basic Filmo 70 DA "professionalized" with all the latest type features necessary for professional work. These

include a shift-over base for focusing directly through taking lens in taking position; 4-lens rotary turret equipped with four lenses; full upright image viewfinder which affords exceptionally brilliant field, erect and correct as to right and left with fast, accurate adjustment for parallax. (Finder tilts forward to clear camera door when threading film.)

Seven film speeds are provided:— from 8 to 64 f.p.s., also a visible footage counter accurately registers each foot of film exposed from 1 to 999. A single frame device may be added where camera is to be used for animation, etc. Two 400-foot external film magazines are provided; a heavy duty tripod with case, head cover and boot; a combination sunshade and matte box and carrying case for camera and accessories.

Three types of motive power are provided: spring, hand crank, and motor. Standard equipment is a 115-volt AC-DC electric motor. Optional motors available include 12- or 24-volt DC universal motors capable of driving camera at all of its seven speeds. For sound work, two synchronous motors are available: 115-volts 50 or 60 cycles, AC, or 220 volts, 50 cycles, AC. All motors are interchangeable and may be mounted and removed in a matter of seconds.

Bolex H-16 — The Swiss made Paillard-Bolex H-16 camera is fast growing in popularity with professional film makers, both as a production and auxiliary camera. Taking either 50- or 100-foot daylight loading spools of film, it provides quick automatic threading which safeguards against loss of film by buckling or loop loss. The spring motor drive provides variable speeds of 8, 16, 24 or 32, and 64 f.p.s. There is also a single frame release which delivers a measured 1/25 second exposure.

Frame counter mechanism is gear driven. Two frame counters are visible: one adds frames in forward motion and subtracts in reverse motion; lower dial totalizes by adding forward motion or subtracting in reverse motion. In addition to frame counter both visual and audible footage counters are provided.

Hand crank permits manual film transport forward or in reverse, independently of spring motor. When disengaged from motor, any desired footage up to 100 feet of film can be rewound for making double-exposures, lap-dissolves and other trick effects.

Other features include: eye level focusing tube affording direct focusing through taking lens; hand crank for single-frame exposures; the new, exclusive Octameter viewfinder which provides automatic field of view for eight lenses ranging from 16mm. to 6-inch telephoto with full

parallax correction; three-lens rotary turret which takes "C" mount lenses; and rotary focal-plane type shutter. Camera is adaptable for sound film and constant speed electric motor drive. Price, without lenses, is \$318.00. Distributed in America by Paillard Products, Inc., 265 Madison Ave., New York 16, N. Y.

Cine-Kodak Special II — The "Cine-Special" long has been a favorite of industrial photographers, engineers, doctors, scientists, lecturers, newsreel and television cameramen. The "Special II" is now available with a re-designed turret and other improvements. The basic camera fitted with either a 100- or 200-foot interchangeable film chamber and either an f/1.4 or f/1.9 Ektar 25mm. lens will enable the photographer to achieve fades, dissolves, mask shots, double and multiple exposures, montages and animation.

The two-lens turret provides for offset of lenses so that both a wide angle lens and a telephoto lens may be mounted together without producing visual interference. A dual finder system provides a reflex finder for exact framing and focusing through the lens, and an eye-level finder with clip-on mattes for various lenses and parallax correction adjustment.

Spring motor drive, when fully wound, will provide a continuous exposure of 38 feet of film. Variable speeds from 8 to 64 f.p.s. are provided with full governor control and cushion braking for high speeds. Variable shutter is manually operated to provide 1/4, 1/2, or full open, or gradual opening or closing for making fades and dissolves. A separate hand crank and special shafts provide for one- and eight-frame-per-turn manual operation of camera, and there is a single frame release, footage meters and frame counter. A set of masks, which is part of the equipment, slip into a slot between lens and film for a variety of special effects.

Extra accessories include: reflex finder image magnifier, making it possible to view image right side up through taking lens from back of camera; optical finder with correction for parallax down to two feet, tripod, carrying case, electric motor drive, blimp, and time lapse outfit.

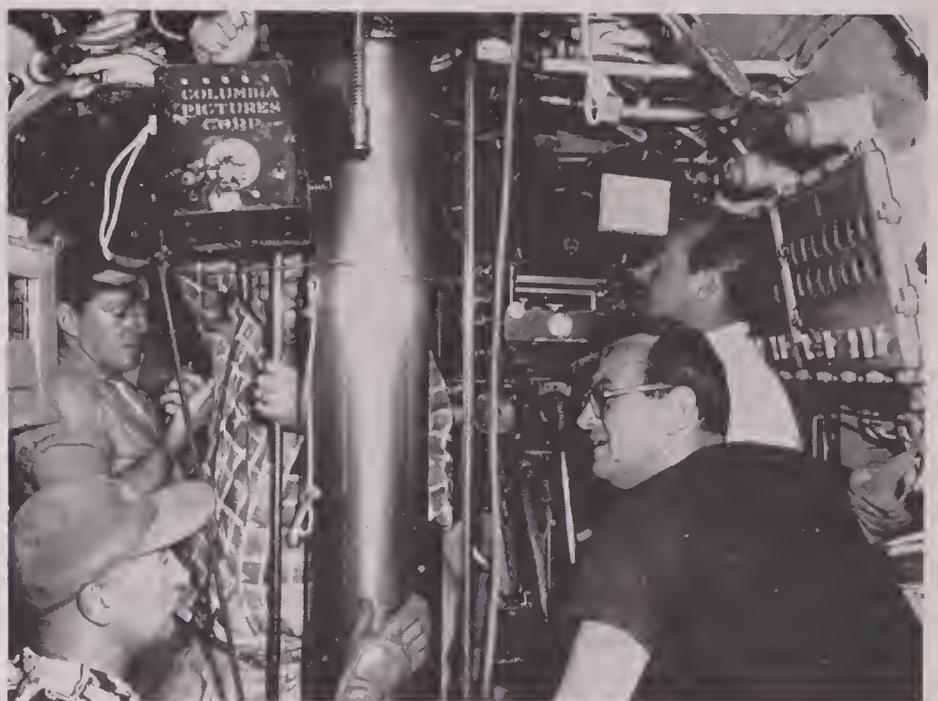
The basic camera with Cine Ektar 25mm. f/1.4 lens and 100 foot film chamber is \$995.00; with 200 foot film chamber, price is \$1,125.00. Manufacturer is Eastman Kodak Company, Rochester 4, New York.

Maurer Professional 16 — The J. A. Maurer Company, asserts with pardonable pride, that this camera was specifically designed to produce steady, sharp,

(Continued on Page 352)



SUBMARINE scenes for Columbia's "The Flying Missile" were photographed on a U. S. Navy submersible. Here camera is set up for shot of action on conning tower.



TYPICAL of the many "back-to-the-wall" operations encountered by director of photography William Snyder in filming "The Flying Missile," is shown in this view of submarine interior. Snyder is wedged in behind the camera.

THE TREND IN Hollywood for shooting more and more pictures on actual locations instead of in the studio has created new problems for directors of photography. Having grown accustomed to the many conveniences of the studio sound stage, location shooting poses problems of lighting as well as use of the camera. This is not to say that the average director of photography is hard put to cope with these problems. On the contrary, these men by virtue of their long years of experience, are well able to adapt themselves to any situation.

But the trend does mean that for a long time in the foreseeable future, they will be doing a great deal of shooting

'Actual Locale' Shooting Poses Problems For Cinematographers

Trend for filming more productions on actual locations forcing change of pace for directors of photography. Here's how William Snyder, A.S.C., met the challenge in photographing Columbia Pictures' "The Flying Missile."

By ARTHUR ROWAN

without the immediate conveniences of the sound stage and studio lot. They will encounter photographic problems that heretofore cropped up only occasionally. Where last year, shots inside a Pullman car were made on the sound stage on a full scale mock-up set of a Pullman, today the tendency more often than not is to take camera and crew down to the railroad yards and shoot the scenes there. All this in an effort to hold down rising production costs.

A case in point is the photographic assignment recently completed for Columbia Pictures by William Snyder, A.S.C., which called for shooting 90 percent of the picture on off-the-lot locations including a Navy submarine. It was the last named that posed a real photographic challenge. But the studio, felt no qualms about it. They had selected Snyder, on the basis of his fine camera work on such Columbia pictures as "The Petty Girl," "Jolson Sings Again," "Return of October," and "The Loves of

Carmen," to photograph "The Flying Missile"—a story about the development of guided missiles in submarine warfare.

One look down the hatch of a submarine would discourage even the most reckless cinematographer from attempting photography there. Subs are notably lacking in elbow room. How anyone could possibly mount a Mitchell camera below decks, much less light the sub for cinematography was a question that would stump a less resourceful cameraman. But Snyder assured producer Jerry Bressler that, given his regular Columbia crew of camera assistants and grips, he could successfully shoot both the interiors and exteriors called for in the script. Snyder, whose forte is Technicolor photography, and a man accustomed to shooting with illumination of around 600 foot candles, undertook this challenging black-and-white assignment which ultimately saw him shooting with light levels

(Continued on Page 355)



SKILL of grips in erecting parallels for shots such as this on Navy submarine tender, amazed Navy officers and crew.



BRITISH lighting and grip equipment is the equal of ours, says Joseph Ruttenberg, who directed the photography on M-G-M's "The Miniver Sequel" at the Elstree studios in London. Ruttenberg found British technicians cooperative and efficient.



DISCUSSING art director's layout for a scene in "The Miniver Sequel" are star Greer Garson, director of photography Joseph Ruttenberg (seated center), director H. C. Potter (rear) and art director, Alfred Junger who designed the "Miniver" sets.

Assignment Overseas

Labor and technical problems diminishing for Hollywood directors of photography shooting in foreign studios.

By JOSEPH RUTTENBERG, A.S.C.

NEVER BEFORE have so many Hollywood productions been photographed abroad. For the director of photography, this has meant — aside from visits to new and interesting foreign lands — working with strange equipment and technicians and putting up with certain labor restrictions and foibles. In most instances, the visiting cinematographer has fared very successfully. I have nothing but good things to say about associates with whom I worked in England months ago in filming "The Miniver Sequel."

The premiere showing of this picture in New York this month is an occasion for reminiscing on my pleasant association with the many fine British technicians who aided in filming this production at Metro-Goldwyn-Mayer's Elstree studios in London. It also affords opportunity to reveal what other directors of photography may encounter on overseas assignments. Today, with the growing trend of off-the-lot production, many cinematographers may expect to receive assignments to photograph a production in Britain, France or Rome — the three most active centers of overseas production at this time. In such event, the thought that naturally comes to mind is, "What are the conditions to be met there

with regard to technicians and equipment?"

A London assignment, of course, affords the greatest promise, although conditions in both France and Italy are fast improving. The London studio situation is more comparable to ours here in America in that equipment and techniques pretty nearly approximate those in Hollywood. The big hurdle, and one that must be settled before the director of photography lands in England, is that country's rigid restrictions against the use of foreign motion picture technicians and labor. This is understandable, in view of the English industry's economic setbacks during the past year which have greatly limited the amount of work available for the large number of British motion picture technicians.

We had to meet this problem before starting to shoot "The Miniver Sequel." It required considerable negotiation in advance, but fortunately the British technicians saw a way to a solution. It simply narrowed down to this: Greer Garson refused to make the picture in England unless I could direct the photography. Making the picture in England meant that more than 600 actors and technical help would receive steady pay

checks for several months. If the picture was not made there, a lot of people would continue to remain on the unemployed lists. So a compromise was reached whereby I could assume direction of the photography providing M-G-M employed a standby cinematographer.

When the picture started, there was the noticeable stiff formality of precisely adhering to the covenants of the technicians' union, but before we had concluded the first day's work, the technicians and I were getting along famously. These men are very eager to work with Hollywood cameramen in order to learn more of the advanced Hollywood techniques. As a result, there is a strong feeling for a mutual interchange of technicians on productions both here and

(Continued on Page 352)



BRITISH Society of Cinematographers' prexy Freddie Young welcomes Ruttenberg on the "Miniver" set, later sponsored his membership in the Society.

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Amateur Cinematography

SECTION



MULTIPLE PLANES emphasize realism. Here the cameraman waited for the right day, hour and position of sun and clouds to gain the light and shadows that divided the scene into three planes.



COMPOSING with emphasis on depth calls for use of foreground objects properly placed in the composition to lend expanded dimension to the picture. Here tree at left gives picture a contrasting foreground.

NOT ALL THE MONEY you spend at the boxoffice of your local movie theatre need be charged to "entertainment" in the family budget book. For if you attend the movies with the added object of *learning* about movie making techniques as well as to be entertained, you might very well credit at least half of your ticket costs to *education*.

All of the basic techniques to be observed on theatre screens have a similar application in the making of 8mm. and 16mm. movies. Of course, you can hardly afford the large casts of the professionals, light your sets with sun arcs, nor even use professional actors; but on the essential premise of movie making: "*How can I make the most of what I have to photograph?*" you and the professional cinematographer begin on an equal foot-

Majoring At The Movies

If you have a yearn to learn, your local movie theatre can become your graduate school of cinematography.

By CHARLES L. ANDERSON

ing. Beyond this point, it's pretty much a matter of individual initiative and resourcefulness plus knowledge of movie making. Much of this knowledge is to be gained through careful study and observation from the comfort of your theatre seat.

There are four techniques of professional film production that demand more of the attention of serious amateur film

makers hoping ultimately to make cinematography a career. They are observable on your theatre screen and include (1) composing scenes in depth to give them a stronger sense of reality; (2) basing amateur films on themes used for theatrical short subjects; (3) the use of long shots to punctuate a film; and (4) the practice of preceding main titles with

(Continued on Page 360)



LONG SHOT

A pleasing arrangement of long shot, closeup and medium shot that tells story of family group picking wildflowers. The LS establishes locale,



CLOSEUP

the CU gives an intimate view of what the people are doing, and the MS pulls back to show all three people together in the activity.



MEDIUM SHOT



HERE a 16mm. industrial film is being photographed without sound, using a 16mm. Cine Special camera. The sound, in form of narration, sound effects and music will be post-recorded and combined with film later.



TYPICAL setup of a commercial sound laboratory. Here tape recorder is at technician's right while in the sound booth, narrator speaks into microphone as he watches film unfold on the screen (not shown).

Selecting Sound For Your First 16mm. S.O.F. Production

Three types of sound recording systems are available: single and double system film and magnetic tape. If budget prohibits buying your own recording equipment, you may either rent it or employ a sound studio to record sound for you.

By CHARLES LORING

MANY OF TODAY'S producers of 16mm. commercial and television films once were ambitious 16mm. movie makers who pressed their advantage of ability to a successful conclusion in the commercial field. Out of these same ranks there are to come—indeed are coming—many more capable 16mm. film makers eager to cash in on their movie making ability in this rapidly growing field. Often a 16mm. cine camerist is approached, as a result of demonstrated ability, to make a 16mm. promotional film for some civic organization or perhaps to undertake a modest advertising film for some local business house; and thus another 16mm. movie maker becomes a potential commercial film producer—providing he can solve the problem of sound.

For him there is the choice of three steps: purchase sound recording camera or double-system recording equipment—a decidedly expensive venture;

rent a sound camera and recorder on a daily basis as needed; or engage a qualified sound recording studio or laboratory to add sound to the film for him.

To a considerable degree, the embryo 16mm. film producer's selection of equipment and method of sound recording will depend upon whether he will be recording dialogue, requiring infinite synchronization, or narration which is most often post-recorded. Narrated sound is relatively easy to negotiate, both in terms of technique and equipment, but direct dialogue, or "sync" sound, carries with it a peculiar set of problems all its own which are somewhat more exacting.

The decision of whether to buy or rent sound equipment depends upon such factors as the amount of filming it is to be used for, the size of the budget, and whether or not purchased equipment can readily be resold at not too great a

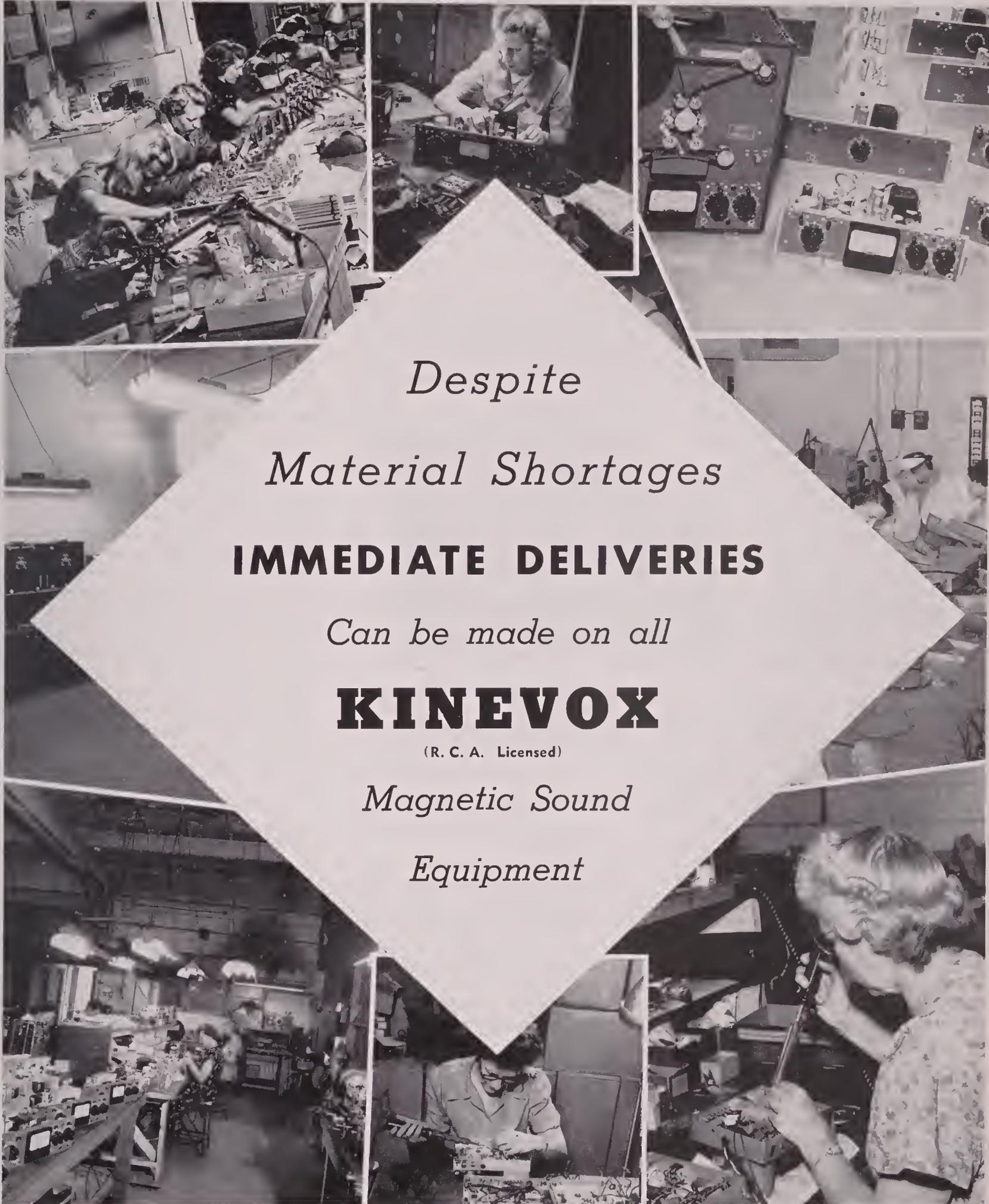
loss, should this ever become necessary.

Generally speaking, if there is a great deal of sound footage to be shot or if such production is a continuing phase of your activity, it is more economical to have your own sound equipment, since over a period of time rental fees might exceed or at least equal the cost of that equipment. But if sound filming is to be only an occasional undertaking, or if the budget will not allow the purchase of good equipment, it is better to rent. In most of the larger cities today, such as New York, Washington, Detroit, Chi-

(Continued on Page 358)



THE AURICON single-system 16mm. sound camera of wide popularity. Sound track is recorded in the camera, with the cameraman usually monitoring the sound with aid of head-set and amplifier and mixing panel on floor.



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CHOOSING A 16MM. CAMERA

(Continued from Page 344)

accurately composed pictures on 16mm. film, that its standard of accuracy is $2\frac{1}{2}$ times that of 35mm. cameras, and that it was especially designed for the professional 16mm. cameraman. It is today one of the prime favorites in the professional 16mm. field.

It is one of the few studio-type cameras offering the same technical features which are found in 35mm. cameras used in feature film production. Some of the important features of the Maurer camera include: intermittent movement and gate designed to insure perfect registration, regardless of film perforation accuracy; one of the better erect-image viewfinders to be found on 16mm. cameras, affording an image $2\frac{1}{4}'' \times 3''$, with quick masking and absence of ghost; a 235° dissolving shutter affording automatic fades and lap-dissolves or change of shutter opening to accommodate failing light; a motor drive applied directly to the intermittent movement through the one-frame-per-turn shaft; a 3-lens turret that takes standard "C" mount lenses; gear-driven film magazines of 400-foot capacity, which take darkroom loading film on cores or daylight loading spools, and a quick action sunshade and sectional filter holder.

Price of camera as described, with 60 cycle 115-volt synchronous motor, 8-frame hand crank, power cable and carrying case is \$3,650.00. A wide range of accessory equipment is also available. Manufacturer is J. A. Maurer, Inc., 3701 31st Street, Long Island City 1, New York.

Mitchell 16mm. Professional — The design of this camera is result of the sum total of knowledge acquired through many years of manufacturing the famed Mitchell 35mm. cameras, and incorporates features which heretofore have been found exclusively on 35mm. Mitchells. Among the more important are the "rack over" mechanism which permits of focusing through the taking lens without disturbing the lens position; the erect image focusing telescope built in the camera door, which provides five and ten power magnification; the specially designed Mitchell movement, which permits high speed as well as normal speed work; a built-in hand dissolve incorporating a graduated segment and miniature shutter; 400 foot film magazines with frictionless light trap; built-in Veeder footage counter and single frame counter which are always visible to the operator, and the 4-lens rotary turret with positive lock and trigger release.

Four types of motors are available: high speed, variable speed (wild), synchronous and interlocking. Motors are built integrally with the right-side camera door and are quickly interchangeable. Matte box and sunshade units mount directly on the camera, supported by two steel tubes, and are adjustable horizontally and vertically. Camera is equipped with a Mitchell erect image viewfinder with built-in adjustable matte. Finder is instantly focused and adjusted for parallax, and provides for swinging out of way when camera door is to be opened for threading film.

Accessories include friction tilthead which is almost a duplicate of tiltheads used with 35mm. Mitchell cameras, tripod of seasoned maple with points of steel and large knurled knobs which provide a double, quick-operating clamp, and carrying case which accommodates both camera, one magazine and accessories. In addition, a new Mitchell blimp has been designed for this camera to meet all professional requirements for 16mm. sound cinematography.

Prices and additional data may be had from Mitchell Camera Corp., 666 West Harvard St., Glendale 4, Calif.

Nord Professional — One of the newer 16mm. professional cameras, the Nord is aimed to fit specialized photographic problems of commercial, television and educational film producers, according to the manufacturer. Salient feature is a rackover of exclusive design, housed entirely within the camera, which permits direct viewing and focusing through the taking lens. Optical system of finder covers all lenses and in addition provides for 100X magnification of center of field by touch of a lever.

Film threading is automatic. Positive registration of film in gate is assured by specially engineered film feeding finger. A 240° shutter provides an exposure of $1/36$ second. Camera takes 100- and 200-foot daylight loading spools of film. Both film spindles are equipped with clusters, permitting automatic takeup of film in either direction without changing belts.

Other features include: single frame shaft and crank; hand crank or electric motor drive; motor drive shaft equipped with safety release as protection against overload; footage and frame counter; 4-lens turret which takes "C" mount lenses, and sunshade and matte box with tubular mounting. The camera may be had with either ground glass finder or the exclusive Nord finder with knob-controlled parallax correction and focusing, which matches the fields of a wide range of lenses from $12\frac{1}{2}$ mm. up.

Price of camera is under \$2,500.00. More complete specifications may be had

by writing the manufacturer, The Nord Company, 254 First Avenue North, Minneapolis 1, Minn.

Pathe Super "16" — This camera enjoys one of the most distinguished ancestries in the world of motion pictures. Made in France, the Pathe Super "16" incorporates many features not often found in a compact camera of this size, the most outstanding perhaps being the full frame follow focus which permits viewing the scene directly through the taking lens as it is being photographed. Thus parallax is never a problem and focusing and composing scenes is made extremely simple. In addition, an optical type finder with adjustable eyepiece is also provided.

Other features include: a two-blade variable shutter with maximum opening of 170° , manually operated by lever at bottom front of camera; speeds up to 80 frames per second, including 8, 16, 24, 32, and 64 f.p.s. with accuracy insured by patented governor control; spring motor drive that gives a sustained run of 30 feet of film at one winding; built-in hand crank, providing also forward and reverse motion; three-lens turret that takes "C" mount lenses; automatic footage and frame counters, that add and subtract with extreme accuracy; and single frame device. Camera takes standard 100 foot daylight-loading spools of film.

Weighing less than five pounds, price of the Pathe Super "16" is \$395.00, less lens. American distributor is Director Products Corp., 521 Fifth Ave., New York 17, N. Y.

ASSIGNMENT OVERSEAS

(Continued from Page 346)

abroad as a means of increasing the British technician's skills.

Actually, many of these men are as skilled and resourceful as most of our technicians. But there are a lot of men among them who are comparatively new in the industry and therefore haven't the experience of years that most of our technicians have. Another thing, they haven't developed the drive and systematic handling of equipment you find in Hollywood studios; as a result, average production schedules are much longer than in Hollywood. There, the number one cameraman (comparable to our director of photography) is called the "lighting cameraman." He lights the sets instead of the gaffer as in Hollywood. Certain technicians in Hollywood would blush to see me swinging a lamp in place or moving cables, gobos and barn doors, as I frequently did on this picture.

However, I think the men in our crew greatly benefited by their experiences in making this picture, for wherever possible, I reorganized their working procedures to more nearly conform with those followed in Hollywood. As a result, we greatly speeded up production.

I think that the British motion picture industry and its technicians are presently in about the same stage of growth as we were a decade ago. Most of the men are "eager beavers"—extremely willing to learn and progress, and they get a lot of personal satisfaction from their work. In my opinion, the big men of Britain's future motion picture industry are now being developed.

As for equipment, the British have the best that can be found anywhere. The Elstree studio, for example, built a replica of the famous M-G-M "RO" camera crane, and added a few new features of their own. They have access to all the latest Mole-Richardson lighting equipment, which is obtainable from the M-R London factory. Perhaps the greatest single factor that retards development of the technical side of the industry is the practice to use a different camera crew each time. In Hollywood, most directors of photography have the same camera and grip crews on every picture. In the British studios, the cinematographer invariably is given a new and strange crew of men, all of whom must acquaint themselves with the general working conditions and with the habits of the cinematographer to whom they are assigned. Working with Hollywood technicians, I think, has had tremendous influence on these men and the "team" idea seems to be catching on.

That the British cine technicians treated me royally is an understatement. While there, I was invited to participate in the 4th Royal Film Performance in the presence of the King and Queen. The occasion was the premiere screening of M-G-M's "Forsyte Saga," (We changed the title to "That Forsyte Woman" over here.) and was held at the Odeon theatre in London. On this occasion, also, I was presented — as were other guests of honor — with a medallion commemorating the event. The inscription reads: "To Joseph Ruttenberg, A.S.C., to commemorate your participation in the Fourth Royal Film Performance in the presence of Their Majesties the King and Queen."

Early in the production of "The Miniver Sequel," Freddie Young, president of the British Society of Cinematographers, and I became fast friends. Months later, I was guest of honor at one of the Society's monthly dinner meetings, at which time Mr. Young, addressing the group, said:

(Continued on Page 355)

SLASH

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with the Fairchild PIC-SYNC* Tape Recorder

*Pic-Sync means "in sync" with picture camera regardless of tape stretch.

Each time you retake a sound track, film production costs go up. The waste of film stock and the time delay for processing increase operating costs immeasurably. You *eliminate* these extra costs with the Fairchild PIC-SYNC Tape Recorder. Play back the sound at once . . . check it . . . erase the track . . . retake the sound *before the talent, the set and crew are disbanded.*



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Inexpensive! Simple to connect! With no modifications to your present 1/4" tape recorder you can "sync" sound-on-tape with picture-on-film. The Fairchild Control Track Generator can be removed from its compact carrying case for rack mounting. Does not require special skill to connect or operate.

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New Technicolor System Announced

New photographic process uses unfiltered incandescent light, shortens color filming schedules, cuts costs.

A NEW TECHNICOLOR photographic system that makes it possible to film Technicolor pictures using an amount of light within the range of that now used for black-and-white photography



Dr. Herbert T. Kalmus, President and General Mgr. of Technicolor, Inc., who has announced a faster, more economical method of Technicolor photography.

has been announced by Dr. Herbert T. Kalmus, President and General Manager of Technicolor, Inc., and Technicolor Motion Picture Corporation.

Years of research by Technicolor have led to the discovery and development of this new system and now for the first time photography in color by Technicolor, using low-level, unfiltered incandescent lighting has been realized. This improved Technicolor system employs an entirely new photographic device and a considerably modified procedure in the Technicolor laboratory.

The new Technicolor system has been tested by major studios with amazing results. It will broaden the scope of Technicolor photography by introducing improvements in convenience, cost and quality.

Because of the greatly reduced quantity of light required and the use of incandescent lighting units, photography of a larger number of scenes each day will be possible. This will lower the time required to produce a picture and reduce the cost.

Directors and cameramen will discover important new possibilities in using this

new lighting for Technicolor. The new system will also be welcomed by players and crews of Technicolor pictures as a comfort measure because the great reduction in the amount of light will be accompanied by a large reduction in the amount of heat.

With the new Technicolor system, photography of important actual scenes, such as inside a cathedral or palace or of large interior scenes of important historical events can now be accomplished which before was much more difficult if not impossible.

One of the great problems for European and other foreign studios has been the lack of the type and quantity of lighting equipment which color cinematography has required. This is now no longer the case and a most difficult obstacle to Technicolor production in foreign studios has been overcome with this newsystem.

Technicolor's first process was additive — producing colors by mixing colored lights — and required a special projector. This gave way to the subtractive method, in which the work of rendering motion pictures in color is done in the laboratory.

The early two-component (red and green) type of Technicolor picture fell short of complete color reality. In 1932 Technicolor brought out its three-component (red, green and blue) process, by which every shade of color may be faithfully reproduced.

Technicolor has recently appropriated the sum of nearly one-half million dollars to carry out the program for its new system. To make Technicolor photography — using unfiltered incandescent illumination with an amount of light required down in the range that is currently used for black and white cinematography — available to the industry to the full extent of the Technicolor capacity, requires building new Technicolor devices, new laboratory facilities and a sizeable new building.

Although the program is under way, it is estimated that it will be from four to six months before the new system will be generally available so that it can be offered to the industry on a large scale. Tests and limited production photography, using the new system, will be possible in the meantime. Steps are being taken to make this new system available also to British and Continental studios.

ASSIGNMENT OVERSEAS

(Continued from Page 353)

"I think it a splendid idea that the creators of Motion Pictures, such as directors, writers, art directors, directors of photography, and others should be allowed to circulate freely and not be confined within the limits of their own countries.

"Of course, we realize that there is a labor problem to consider, and therefore it will quite often be necessary to work out some system of reciprocity. I am sure a lot of members of the B.S.C. would like the opportunity of shooting a film in Hollywood, and it would be very valuable experience for them; but I'm equally certain that it is good for Americans and those of other nationalities to come to work here, if only to make them appreciate their own country more. In our hearts we have the kindest feelings for directors of photography throughout the world."

Subsequent to this meeting, I was voted a member of the B.S.C., and in due time received a welcoming letter and my membership card.

I hope there will be other occasions for me to work with these fine men at the Elstree studios situated in the picturesque Borham woods, just outside London. On my next assignment there, if there is to be one, I am sure I shall find things cinematic greatly changed—vastly improved—as a result of the terrific ambitions of these men and their eagerness to attain a position second to none in the world's motion picture industry. The fact that thus far they have been able to work at a more leisurely pace has enabled them to explore and develop more of the art of motion pictures if less of the technical. But perhaps that is a good thing. There is a greater need today to maintain artistry on a high level—not to lose sight of it, despite mounting production problems and the increasing pressures of economics.

'ACTUAL LOCALE' SHOOTING

(Continued from Page 345)

ranging from 30 to less than 500 foot candles—more often in the lower ranges. In this, he was aided by Columbia's latensification process.

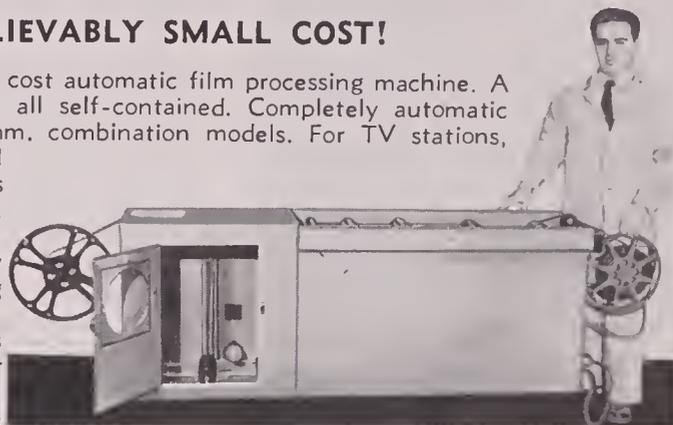
When light conditions didn't impose restrictions, the limiting quarters of the submarine hampered use of the camera. An instance was the sequence of shots called for within the conning tower of the submarine—a room approximately

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★ Requires only 1.4 Watt sound-track exposure-lamp. Operates from small, light-weight dry-cell batteries.

★ Tested and now being used by leading studios and television stations.

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six by ten feet in size and crammed with instruments and gear. It was tough enough to get the Mitchell camera into the enclosure and mounted on a tripod. Snyder needed every inch of room he could get to make the series of shots with 25mm. lenses. Often the actors were little more than two or three feet away. Snyder was wedged in between the camera and the steel wall of the tower, directly opposite the actors, with scarcely enough room to look through the finder. Often it wasn't even possible, once a shot was lined up, to move out from behind the camera and allow the operator to take over. Director Henry Levin often had to go topside while Snyder was lighting the shot — with only Snyder and his gaffer remaining below. When lighting and camera were made ready, the gaffer then went above and the actors took their places before the camera. This meant the actors frequently were called upon to adjust a lamp, when such was necessary, in the absence of the gaffer — something that never would be done on the sound stage but accepted in this instance because of circumstances.

In all, the company spent six days on the submarine. During this time the most exciting scenes for the picture were filmed. The story concerns the efforts of a submarine commander (Glenn Ford) to adapt the Navy's new guided missiles to submarine armament, and the development of a suitable platform for launching the missiles from decks of the subs. Launching of the first missile results in a premature explosion which paralyzes Ford and kills a brother officer. Eventually, through the commander's perseverance, successful launching of the missiles is accomplished.

"During the six days," said Snyder, "we shot all over the submarine, inside and out. It was a tough picture physically, because of the numerous limitations. But the men in our crew constantly amazed the Navy men by their display of ingenuity and resourcefulness when it came to tackling tough problems, such as quickly erecting a scaffold for camera or lights, using a couple of "C" clamps and planks; or erecting "outrigger" platforms off the side of the sub to afford the necessary side shots of deck action that otherwise could only be made from the deck of another craft, which often was not available.

"Cloudy weather plagued us most of the time and because there were occasional moments of sunshine which we utilized whenever possible, there was the added problem of matching the lighting between shots made on overcast days and those made in sunshine. But there was no waiting for the weather. We shot right through it, for surprising enough, the light intensity rarely seemed to diminish;

we lost only contrast when clouds and fog took over.

"Then there was the day when we were filming in an area in the ocean which, for story purposes, had to be clear of any objects — including sea gulls. For reasons known only to sea gulls, a flock of them appeared early that day and kept circling the boat with smooth rising and falling motions which at any other time would have been beautiful to behold. 'If only they were from Central Casting,' I thought, 'we could have the assistant director line them up and fly them past one at a time.' But it was the skipper of the Navy sub who saved the day for us. He radioed to shore for a motor launch. This was loaded with remnants of the box lunches served earlier to the crew and cast, then taken a mile away where the tid bits were dumped into the sea. The birds fell for the "bait" and the scene was filmed without further interruption."

When shooting below deck, and for the fill lights used on deck, Snyder utilized the ship's generator to supply power for his lamps. Lighting equipment consisted of the special economy light units — many of them developed especially at Columbia studios for their now famous "50 foot candles" lighting system — such lamps as peanuts, baby broads, gimmicks, photofloods, etc.

Besides the interiors filmed in the submarine, Snyder encountered some tough interior filming in an underground radar station, and in a communications center. In many cases, he utilized the practical lights plus a few photofloods, then marked the film for latensification. At the other extreme, there was the sequence of scenes made in the rooftop office of a Navy officer, which had windows on all four sides, so that no matter where the camera was placed, it was shooting into the harsh daylight out of doors. Snyder balanced this light with his interior lighting by placing ND filter gels over the glass in the windows.

Perhaps the most meticulous shots of all were those made in the radar room. Normally, this room is quite dark in order to facilitate reading the radar scope and the illuminated dials of the countless other instruments in the room. To preserve the natural appearance of this room, small practical lamps were placed in carefully selected spots to high-light or silhouette objects for contrast and separation, then the footage was latensified to gain the extra speed necessary for satisfactory exposure.

The "low foot candle lighting plus latensification" technique was carried out in filming scenes in many other actual locations such as interiors in the Balboa Park Naval Hospital in San Diego, the Captain's office at Pt. Magu, the Naval

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machine shop, and the missile storage hangar. "Figuring our setups and plotting camera angles was a constant problem," Snyder said, "because so many things had to be taken into consideration that we never have to contend with in the studio: windows with harsh daylight streaming through; narrow offices and rooms; and most aggravating — the lack of 'wild walls' that could be removed quickly to make way for the camera. Indeed, we had our 'backs to the wall' most of the time, both literally and figuratively."

"In the closing days of this assignment," Snyder continued, "we filmed the climactic scenes of the picture — the launching of a giant rocket from the deck of a submarine. For this we set up nine special cameras. We couldn't afford to miss any of the action, for rockets are costly and would make retakes prohibitive. This marked the first time that a guided missile had ever been photographed for a specific scene in a motion picture. In addition, for story purposes, the flight of the missile was also photographed by Chief Petty Officer Paul Potts, Navy aviation photographer, who filmed the missile from a jet plane streaking along beside it at a speed of more than 400 miles per hour."

Of inestimable assistance in the making of this picture was Rear Admiral T. M. Dykers, U.S.N., retired, who served as technical adviser. Admiral Dykers, new to movie making, quickly caught on to cinematic techniques and was invaluable in suggesting a line of action best suited to the viewpoint of the camera. Indeed, Snyder suggests that he may have become so imbued with picture making that he'll probably wind up on the staff of one of the studios, permanently.

For William Snyder, "The Flying Missile" was simply another of those challenging and provocative assignments which constantly come the way of Hollywood's top directors of photography. Here was a photographic job demanding ability — ability to visualize, improvise and invent — despite known obstacles which were clearly forseen in the planning of the picture. Snyder's camera crew functioned as smoothly as the giant motors which propel the sleek black subs on which they worked. Only once did anything arise to hamper this smooth working machine — thick, pea-soup fog. On this occasion Snyder suggested to producer Bressler it would be better to retreat to the studio and shoot what scenes were scheduled there. Bressler radioed the studio they were coming ashore, adding: "Fog so heavy even the birds are walking."



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SELECTING SOUND FOR 16 MILLIMETER

(Continued from Page 350)

cago, Kansas City, and Los Angeles, both 16mm. and 35mm. sound cameras and recorders are to be had on a rental basis. For a source of such equipment, the classified pages of your telephone directory should be your best reference. Also, in most large centers, it is possible to hire sound engineers with recording equipment who will record sound for your films, or laboratories where you may take your film for the addition of post-recorded sound in the form of narration, sound effects and music.

In present-day production, three types of direct sound recording set-ups are used: single-system film, double system film, and double system tape. Single-system refers to a technique in which both picture and sound are recorded in the camera directly on the same strip of film, properly spaced so that the film is ready for the sound projector immediately after processing. It is the fastest and most economical method of recording direct dialogue. Its chief drawbacks, however, lie in editing, because of the 25 frame lag between picture and sound, and also in the fact that it is usually necessary to use emulsions which are fine for the picture rendition but not ideally suited to sound recording because of grain and other technical factors.

It is possible to stage action in such a way that it can be edited satisfactorily in single-system recording, but the operation is a highly exacting and a trying one at best. As for the film problem, it is possible to use slower type emulsions with a finer grain when there is sufficient light. Type A Kodachrome has proved especially satisfactory in this respect.

Due to the peculiar demands of television filming, single system sound is coming more into popular use. Not only does it permit rapid and inexpensive production of commercials, but it is especially adaptable to filming special news and sports events with dialogue or commentary so that they can be put on the air in the shortest possible time after the event has taken place.

Double-system sound-on-film is the sound recording method used in the major studios and by the large 16mm. commercial film producers. In this method, only the picture is exposed in the camera. The sound is recorded on a separate strip of film in a recorder driven by a motor synchronized by interlock with that of the camera. The recorder need not even be in the same area as the camera and indeed in professional production it is usually located in a sound truck or

a central recording department in another building. The inter-locking motors insure perfect synchronization of picture and sound.

Double-system recording has great advantages in that the sound is recorded on film especially developed to give the finest sound rendition. Also, since the dialogue is on a separate strip of film, much greater leeway in editing is possible than with single-system recording. The disadvantages for the small producer with limited budget include a much greater film and processing cost, due to the fact picture and sound are recorded and processed separately. Also, the interval between time the film is shot and the time it is ready for projection is greatly increased. Not only is it necessary to edit two strips of film instead of one, but it is necessary to put the two films through another printing and developing process in order to obtain a composite sound print ready for projection. A budget drawback in the use of double-system sound is the high cost of sound film that is wasted on bad or discard takes. This is an expense which can develop into a major item on the production budget.

One of the newest developments in the field of sound recording, both for 35mm. and 16mm. production is that of magnetic tape used in a double-system arrangement. Standard tapes are now produced in sizes of 17 1/2mm. (corresponding to split 35mm. film), 16mm., and the non-sprocketed 1/4-inch size popularly used on many home recorders. Because tape is relatively harder to "read," there are comparatively few editors who edit it directly. In most cases, only the good takes are "transferred" by re-recording optically on either 16mm. or 35mm. film which is then edited in the conventional manner along with the picture film.

The main advantage in favor of tape is the saving on film stock, due to the fact that only the good takes need be printed. There is little or no loss in quality in the transfer from tape to film. On the contrary, it is often possible to improve the quality by monitoring the sound during the transfer process. When a satisfactory transfer has been made, the tape may then be erased and used over again.

The re-recording or "dubbing" session actually produces the final sound track that will be used in printing the picture. At this time, dialogue, narration, sound effects and music are all blended or "mixed" to produce a single track. There may be as many as six or eight separate tracks or channels used to produce the final result. Sound on film can be blended with disc or tape recordings or with direct voice, each of the channels being monitored separately for proper balance. Recording studio rates are usually based

on the number of channels involved, or more often on the amount of time required to complete dubbing of the final track.

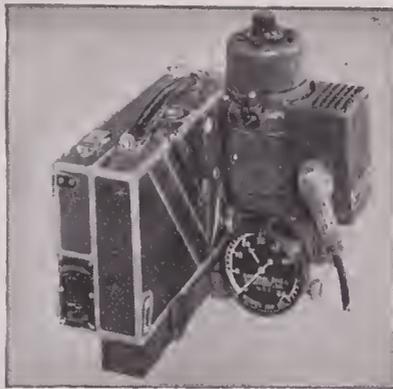
Background music for 16mm. commercial films presents its own special problems. Most American made disc recordings are not cleared for use on film, and the producer who blithely goes ahead and uses them invites suit for damages. Most recording studios have disc libraries of foreign-recorded music which is licensed for use on film, through payment of a royalty for each selection used. From time to time these companies supplement the existing library with new releases. There are also several organizations which provide original theme music recorded on film, and who will cut a special music track to closely suit the dramatic content of the film — or if the budget allows, they will compose and record original scores especially for certain films. In both cases a per-reel charge is made to the producer.

The importance of a good musical score cannot be overestimated, because music can do much to add extra punch and emotional quality to various sequences. Moreover, music tends to smooth out rough spots in the sound which are bound to occur on location filming. The best method for scoring a picture is, of course, the original score written directly for the picture and played by a full orchestra or a solo instrument such as the Hammond organ.

If this method is too expensive, as it often is, the next best method is the use of music tracks cut to fit the picture exactly. Through the use of A and B tracks, smooth transitions can be made from one theme to the other. The cheapest method is to use discs cued to fade from one to the other as the narrator speaks. The success of this "radio" type of recording depends mainly upon the skill of the mixer and the man who changes the records. In any event, it is difficult to get such music to hit right on the visual cues used in the film. However, it is an inexpensive method and quite satisfactory for use with the simpler types of films.

Sound effects can be had in two ways: by recording actual sounds with a tape recorder and then transferring to film, or by dubbing off of sound effects records which are available on the market.

Probably the most important advice that can be given here for those undertaking for the first time the production of a 16mm. sound film, is to carefully figure all costs relative to the sound recording and printing phase of the production before submitting a figure to the client. With the small, independent 16mm. producer, sound will usually exceed all other production costs. END



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MAJORING AT THE MOVIES

(Continued from Page 349)

a short pictorial prelude that gives a hint of the picture to come.

All motion pictures are shown on a flat screen, but the clever cameramen are those who try to make the audience forget that fact as soon as possible. Back-and side-lights give roundness to the performers and strong lights "scraping" the set bring out its form and texture. But even without this lighting control you can easily duplicate professional use of foreground props and settings with several distinct planes.

Foreground props are those objects set much closer to the lens than anything else in the scene. They give a shot a third-dimensional quality and add variety to the film through the new compositions they make possible. One good example is the reading lamp that often frames a close-up of someone reading a book or letter. It is easily placed on the table where needed and serves a useful purpose in the shot. Other objects that have been used include flower vases, statues, trees, doorways, pianos, bedposts, stoves, or a coffee pot. For especially dramatic scenes, part of an actor such as his hand or shoulder can be placed in front of the camera as a foreground prop.

Settings with several distinct planes tend to emphasize the reality of your scenes. Usually, your set-ups will include walls, shrubbery, buildings, or machinery at several different distances from the camera without your thinking of it. But sometimes you may be faced with the problem of flat walls with nothing to relieve their monotony. Perhaps you're

taking shots of Cousin Emma and the children. They're standing beside the house, which is perfectly flat. You might try to find an angle that includes some of the garden, the street, or your neighbor's house. Action that continues in a flat setting for more than a few seconds becomes quite tiring.

The quickest way to change a flat background into a "filmic" one is to move the camera so that the wall is viewed from an angle. It will be more to the side of the screen, large near the camera and diminishing in size as it recedes. A short-focus lens would heighten the effect. But if a flat setting is unavoidable, the photographer can still group his subjects to give an acceptable composition, placing someone rather close to the camera, with the others standing behind him at places decided upon by checking the scene through the finder.

The amateur filmer who wants to try some projects more ambitious than the usual home movies and travel films, might well find a wealth of ideas in the shorts series being shown theatrically. The "So You Want To Be A . . ." series, distributed by Warner Bros., has a format that can easily be adapted to small-scale filming. And you probably remember the Robert Benchley shorts in which Benchley finds himself plunged into greater confusion than ever as he explains some minute facet of our daily life.

Attempting real dramatic action is often discouraging for the neophyte producer, for he tries to be too serious or too

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velopments and knows all his formulas.

The new organization will carry on much the same as did Mr. Scheibe, according to Mr. Brown, offering filters on special order rather than setting up production on a volume basis. For this, the new organization has added new precision instruments to insure the highest technical quality in their product. Each filter will be individually tested before delivery.

Charles Brown was formerly with Bausch & Lomb Optical Company, in Rochester, N. Y., for 12 years as an optical engineer and has been associated with various phases of the motion picture business since 1922. Leslie Peart, a former Rochester business man, has had wide experience in the optical field.

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complicated in his first efforts. But the basic, humorous ideas behind the shorts series mentioned are almost perfect for an entertaining amateur one-reeler. The "So You Want To Be A . . ." films depict a Mr. Joe McDoaks as he tries one form of business or recreation after another — always to his eventual discomfort. One of your own films could show a friend demonstrating the correct methods of auto repairing, gardening, or salesmanship. True, the humor won't be of the super-sophisticated variety, but it should be strong enough to hold together some good practice work in cinematography.

The usual directions to newcomers at filming include plenty of warnings to include closeups. The beginner is reminded that closeups show the subject in great detail, unlike the medium shots he usually uses, and that audiences like the change in viewpoint that a closeup affords. But the extreme long shot is often overlooked, although its value is well known to professional filmers.

Long shots, as used in amateur films, are frequently taken just because the photographer happened to be some distance from his subject at the time. The long shot usually stays in his film just as it was originally taken. A knowledge of some of the main functions of the L.S. can be a help to you in choosing your future set-ups.

The "geography" of a situation can be confused in a picture where much action takes place in tight medium shots and closeups. Thus audiences may become uncertain as to the path of the action, the positions of the people involved, and the physical layout of the setting. Even if they don't realize this consciously, they become vaguely uneasy at not knowing "what's coming off here." An occasional long shot satisfies this curiosity and well clarifies the action. Furthermore, it offers an interesting change in the composition as to the closeups mentioned above.

Action which is seen from comparatively close angles for any length of time also gives the feeling of being in a cramped, tight space, no matter how large the setting actually is. The long shot, referred to as a "breather shot" in this situation by some editors, relieves this undesirable effect.

One tried-and-true way of introducing the audience to an important character is to let them discover that person in a long shot before the camera seems to. For example, suppose that you are making a film about a small child's first visit to the zoo. You could open with a long shot of the zoo without the child in view. Suddenly he toddles into the scene, running towards one of the cages. His mother enters and takes him by the hand. The audience's interest has sud-

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denly been caught by this one figure in the long shot because of his distinctive action; and now the photographer can cut to a medium shot of the small boy in answer to an unconscious demand on the part of the audience to find out more about him.

Some film producers like to begin their feature films with titles that nicely set the mood of the story. An important example is the action just preceding the credit titles in one of the "Topper" pictures. The camera roamed through a deserted, spooky mansion at night. No one was there. Finally the camera stopped before a closed door. No movement. Suddenly a knife whipped through the air and stuck in the door. Then the titles dissolved on with the knife and door in the background.

Amateur filers have long used scenes behind their titles to give a hint of what is to come, but the use of some other material *before* the titles to symbolically suggest something of the picture is a new idea to most. This device could well be used at the start of a film about a vacation. The first shot is a long, slow pan of the filer's living room. It is cluttered with half a dozen suitcases and trunks in the process of being packed. The camera, panning by, reveals fragments of ties and

sweaters dangling out of the closed cases, shirts piled up for which there is no room, and the variety of odds and ends that every vacationer thinks he must take along. The camera finally stops on one trunk onto which the main title is fastened. Fade out. Fade in. And you're into the main part of your picture, having precluded it with a glimpse of what it took to get ready for the trip.

Other varieties of these "prelude" titles almost suggest themselves. A film on river fishing could be preceded by a large closeup of a fishing fly being tied. The fly is set with some others against a dark background and then the titles dissolve in. Even the film record of a child's birthday party could use this type of title. You open the film with a scene of the party table just after it has been set. It's neat and clean. The titles appear — perhaps in the form of closeups of place cards at each plate. Fade out and fade into the party picture itself. At the finish, the end title is superimposed over the party table, which is in shambles by this time. The contrast between the opening and closing title backgrounds tells its own story.

Yes, by practicing a little careful observation of professional films, your local movie theatre can become your own graduate school of cinematography.

DOLLY FOR FILMING FOOTBALL

(Continued from Page 341)

than is usually seen in pictures with a football theme. When David Miller was given the directorial assignment for this picture, his first request was for Lee Garmes, as director of photography, and Garmes' well known crew of technicians headed by grip Ralph Hoge. Granted his wish, Miller called Garmes and Hoge into conference and presented his case. The need was to secure dynamic and dramatic gridiron action scenes in order to underscore the playing of John Derek which motivates the story. Hoge, whose reputation for inventing time-saving grip equipment is well known throughout the industry, applied some of his war-borne knowledge to the problem and came up with the shock-rope dolly idea. He also suggested use of a motorcycle with sidecar, or a light automobile. So before undertaking construction of the special dolly, both the motorcycle and automobile were tested on the playing field of a local stadium. The motorcycle provided the quick starts necessary but tore up the turf on starts and turns, causing stadium officials to veto it. The automobile was found to be too slow in getting started, which automatically eliminated it.

Columbia Pictures' engineering department then built the dolly according to Hoge's specifications and provided the hundred-yard lengths of half-inch elastic rope to power it. The dolly was tried out at Pasadena Rose Bowl and preliminary tests indicated it would meet all requirements.

The dolly is patterned after the conventional low-slung studio dolly, with steering for one set of wheels. The tubular metal framework supports a circular collar, adjustable for different heights which aids the camera operator in holding a steady stance with the camera as the dolly moves over the ground. Wheels are the usual ball-bearing type fitted with pneumatic rubber tires. The elastic ropes are securely attached to front of the dolly frame.

Once the dolly is released, it attains peak speed within two feet. Its rate of travel depends upon how tight the elastic ropes are drawn. Several tests enabled Hoge's crew to determine the degree of tautness necessary to pull the dolly along at speed of the average player running on the field.

In actual use, the dolly was made to

THE DOLLY described here is only one of many outstanding grip equipment contributions by Ralph Hoge who, besides serving as key grip on director of photography Garmes' crew whenever he's shooting, also heads up the Thomas Rentals organization in Hollywood which supplies studios with such important items as camera gear heads, electric parallels, with motor driven elevators that carry camera, crew and lights to heights of twenty feet; hydraulic camera tripods, and hydraulic telescoping lamp stands—all of his own design and manufacture. Most of these ideas he got while parachuting from planes behind Japanese lines in China in the last war. Having to hide out during the daytime and working mostly at night, he got in the habit of using daylight hours to make sketches of those pieces of studio equipment he thought might prove helpful, once he got back to Hollywood. The Shock rope idea is only one of these which he drew upon generously when Miller tossed the unusual filming demands of "The Hero" in his lap.

Hoge will tell you that he never had time for inventing before he went to China. The pace at the studios doesn't allow for dreaming up ideas nor sketching plans, which is one of the reasons, Hoge thinks, that studios are not more progressive in developing better equipment. "The industry doesn't give its technicians time to sit down and invent new tools," Hoge says, "and fails to encourage the vast inventive potential within it."

Incidentally, Hoge recently returned from Washington, D.C., where he filed a patent on a new and startling device for motion picture production soon to be announced. The device is said to be so revolutionary, Hoge filed the application personally to insure its security.

travel an irregular path so the camera could follow or precede actor Derek running with the ball. To accomplish this, the dolly, once set in starting position, was firmly anchored and the elastic rope stretched down the field; but instead of stretching it in a straight line, two and often three abrupt turns were provided so the dolly would follow the irregular travel of a player down the field with the opposing team in pursuit. This was accomplished by spiking the rope, say at a distance of twenty-five feet, then drawing it sharply to one side, stretching it tightly, then spiking it again at another point, then pulling it at another angle and finally anchoring it in the turf with a long steel pin. The pins were provided with a quick release loop at the top, through which the rope passed.

Thus, as the dolly, released from its

starting point, approached the first turn, a grip would quickly open release on the first pin, freeing the rope which then pulled the dolly in a new direction. Sharp turns were avoided by a grip riding the dolly and steering it as the turns were met. This procedure was followed for the entire length of dolly travel.

In the first trials, no brake was provided for the dolly. This presented a dangerous hazard in that should a player slip and fall in front of the dolly as it travelled toward him, he would unquestionably be seriously hurt if not killed. So mechanical brakes were installed and for an added safety factor, steel bars were fixed to protrude from either side so that grips running alongside the dolly could grasp them and slow its advance in case of emergency, or decelerate its speed to conform with action being filmed.

The dolly made it possible for director Miller to shoot real football scrimages instead of faked playing so often staged for film productions, and to bring such action vividly to the screen. In all, four complete teams were on hand to furnish the necessary players to supply replacements, as in a regular game. Except for special action occasionally staged close up, all playing was along standard collegiate lines with team captains planning and executing plays the same as they would in a Saturday afternoon conference game.

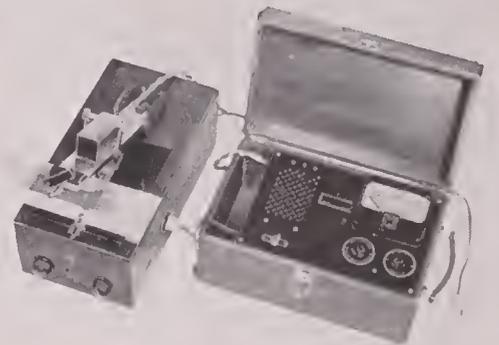
Admittedly the task of camera operator Kit Carson riding the dolly and handling the Cunningham camera was no easy one. The hand held camera permitted greater maneuverability than if it had been mounted on a tripod, and enabled following the quick shifts of players with complete freedom. On the screen, scenes appear to have been filmed with a camera traveling just ahead of the players—which is just what happened. Similar action, photographed from a distance with telephoto lenses cannot compare with scenes filmed for "The Hero" from the dolly. They lack perspective and are devoid of the intimacy gained by the on-the-spot dolly-mounted camera and lenses of shorter focal length.

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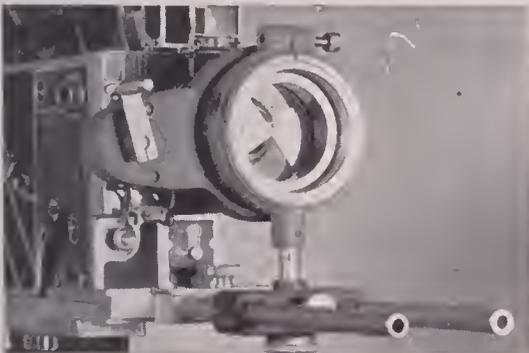
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BULLETIN BOARD

(Continued from Page 338)

in equipment and techniques for the production, processing, and presentation of motion picture and television material is represented in the 52 scheduled papers and reports.

Subjects covered by technical papers listed in the tentative program include sound and projection, theater television, optical and magnetic sound recording, motion picture photography, color film processing, various methods and applications of high-speed photography, television studio equipment and lighting, and various aspects of television film transcription and production of films for television.

Clarence V. Garrell, cameraman for major Hollywood studios from 1936-43 and one of the U.S. Army's top combat photographers during World War II, recently arrived in Germany from Vienna to assume duties of civilian information and editorial specialist with American forces in northern Hesse.

Garrell was personal cameraman for the late Gen. George S. Patton Jr. in England and accompanied five divisions through major campaigns where he filmed some of the top camera shots of the war. He photographed the liberation of Paris, St. Malo, Aachen, Duren, Cologne and Berlin, once recording on film a tank battle that took place one mile behind German lines. Garrell also photographed the first American crossing of the Rhine River and was present when the American and Russian Armies met in Berlin.

Experimental films and film making will be the subject of a new course, *New Frontiers in the Cinema*, to be given this fall by New York University's adult unit, the Division of General Education, in collaboration with Cinema 16, the film society devoted to screening of documentary and experimental motion pictures.

Classes will meet in fifteen bi-weekly sessions on alternate Monday evenings at the University's Washington Square Center, beginning October 30 and continuing to May 28, 1951.

Coordinator of the series will be Dr. George Amberg, lecturer on arts at the University and theatre consultant at the Museum of Modern Art. The program of films, many of them obtained from private collections, has been developed by Dr. Amberg and Amos Vogel, executive secretary of Cinema 16.



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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

- LEE GARMES, "The Hero," (Sidney Buchman Enterprises) with John Derek and Aldo Da Re. David Miller, director.
- CHARLES LAWTON, "The Romantic Age," with Margaret O'Brien, Allen Martin, Jimmy Hunt, Sharyn Moffett and Lloyd Corrigan. Seymour Friedman, director.
- HENRY FREULICH, "Fort Savage Raiders," with Charles Starrett, Smiley Burnett, Peter Thompson and Trevor Bardette. Ray Nazarro, director.
- LESTER WHITE, "Gasoline Alley," with Scotty Beckett, Jimmy Lydon, Jacki Immoor, Don Beddoe and Dick Wessel. Edward Bernds, director.

Eagle-Lion

- ELMER DYER, "Korean Patrol," (Jack Schwarz Prod.) with Richard Emory, Benson Fong, Terri Duna and Al Eben. Max Nosseck, director.

M-G-M

- ROBERT PLANCK, "Royal Wedding," (Technicolor) with Fred Astaire, Jane Powell, Peter Lawford, Sarah Churchill and Keenan Wynn. Stanley Donen, director.
- ROBERT SURTEES and WILLIAM SKALL, "Quo Vadis," (Shooting In Italy) with Robert Taylor, Deborah Kerr. Mervyn LeRoy, director.
- GEORGE FOLSEY, "Mr. Imperium," (Technicolor) with Lana Turner, Ezio Pinza, Marjorie Main, Sir Cedric Hardwicke and Nina Koshetz. Don Hartman, director.
- WILLIAM MELLOR, "Across The Wide Missouri," (Technicolor) with Clark Gable, Maria Elena Marquez, John Hodiak, Ricardo Montalban, James Whitmore, Adolphe Menjou, J. Carroll Naish, Jack Holt and Doug Fowley. William Wellman, director.
- ALFRED GILKS, "American In Paris," (Technicolor) with Gene Kelly, Leslie Caron, Georges Guetary, Nina Foch and Oscar Levant. Vincente Minnelli, director.
- HAL ROSSON, "Red Badge of Courage," with Audie Murphy, Bill Mauldin, Royal Dano, Douglas Dick, and Arthur Hunnicutt. John Huston, director.
- JOSEPH RUTTENBERG, "The Great Caruso," with Mario Lanza, Ann Blyth, Dorothy Kirsten, Jarmila Novotna, Blanche Thebom, Teresa Celli, Ludwig Donath, Carl Benton Reid and Nestor Paiva. Richard Thorpe director.
- RAY JUNE, "Inside Straight," with David Brian, Arlene Dahl, Barry Sullivan, Mercedes McCambridge, Paula Raymond, Lon Chaney and Monica Lewis. Gerald Mayer, director.
- PAUL C. VOGEL, "Go For Broke," with Van Johnson, Warner Anderson and Richard Anderson. Robert Pirosh, director.

Monogram

- MARCEL LEPICARD, "The Witness," with Joe Kirkwood, James Gleason, Robert Coogan and Myrna Dell. Reginald LeBorg, director.
- GIL WARRENTON, "Blue Blood," with Bill

Williams, Jane Nigh and Audrey Long. Lew Landers, director.

- WILLIAM SICKNER, "Fangs Of The North," with Kirby Grant, Chinook, Lynn Roberts, Ann Gwynne and Tom Neal. Frank McDonald, director.
- HARRY NEUMANN, "Cavalry Scout," with Rod Cameron, Audrey Long. Lesley Selander, director.
- KARL STRUSS, "Father's Wild Game," with Raymond Walburn, Gary Gray, Barbara Brown, M'liss McClure, and Fred Libby. Herbert I. Leeds, director.

Paramount

- CHARLES LANG, "Ace In The Hole," with Kirk Douglas, Jan Sterling, Porter Hall, and Richard Benedict. Billy Wilder, director.
- RAY RENNAHAN, "Warpath," (Technicolor) (Nat Holt Prod.) with Edmond O'Brien, Dean Jagger, Forrest Tucker and Harry Carey, Jr. Byron Haskin, director.
- GEORGE BARNES, "Carrie," with Laurence Oliver, Jennifer Jones, Eddie Albert, Ruth Warrick, Basil Ruysdael and Mary Murphy. William Wyler, director.

R.K.O.

- EDWARD CRONJAGER, "Best Of The Badmen," (Technicolor) with Robert Ryan, Claire Trevor, Jack Buetel, Robert Preston and Walter Brennan. Wm. Russell, director.
- GEORGE DISKANT, "The Gaunt Woman," with Dana Andrews, Claude Rains, Carla Balenda, Philip Dorn and Eric Feldary. Alfred Werker, director.
- HARRY WILD, "Macao," with Robert Mitchum, Jane Russell, William Bendix, and Thomas Gomez. Josef von Sternberg, director.

20th Century-Fox

- WINTON HOCH, "Bird of Paradise," (Technicolor) with Louis Jordan, Debra Paget, Jeff Chandler, Everett Sloane. Delmer Daves, director.
- LUCIEN BALLARD, "House On Telegraph Hill," with Valentina Cortesa, William Lundigan, Richard Basehart and Fay Bainter. Robert Wise, director.
- HARRY JACKSON, "Wild Winds," (Technicolor) with John Lund and Jean Peters. Louis King, director.
- JOSEPH LASHELLE, "The Scarlet Pen," with Linda Darnell, Charles Boyer, Francoise Rosay, Constance Smith, Michael Rennie and Judith Evelyn. Otto Preminger, director.
- JACK GREENHALGH, "The Sword of Monte Cristo," (E. L. Alperson Prod.) (Technicolor) with George Montgomery, Paula Corday, Barry Kroger, Lillian Bronson and Acquanetta. Maurice Geraghty, director.
- 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.
- LEO TOWER, "Follow The Sun," with Glenn

Ford, Anne Baxter, Dennis O'Keefe, and June Havoc. Sidney Lanfield, director.

United Artists

- GUY ROE, "Queen For A Day," (Robert Stillman Prod.) with Phyllis Avery, Darren McGavin, Rudy Lee, Adam William, Tracy Roberts. Arthur Lubin, director.

Universal-International

- CLIFFORD STINE, "Mystery Submarine," with Macdonald Carey, Marta Toren, Robert Douglas and Ludwig Donath. Douglas Sirk, director.
- CHARLES BOYLE, "Apache Drums," (Technicolor) with Stephen McNally, Coleen Gray, Willard Parker and Arthur Shields. Hugo Fregonese, director.
- WILLIAM DANIELS, "Lights Out," with Arthur Kennedy, Peggy Dow, James Edwards, and Rock Hudson. Mark Robson, director.
- MAURY GERTSMAN, "Prisoner Of War," with Mark Stevens, Robert Douglas, Alex Nicol, Gig Young and Johnny Sands. George Sherman, director.
- CARL GUTHRIE, "Bedtime For Bonzo," with Ronald Reagan, Diana Lynn, Walter Slezak, Herbert Heyes, and Lucille Barkley. Frederick de Cordova, director.
- IRVING GLASSBERG, "The Prince Who Was A Thief," (Technicolor) with Tony Curtis, Piper Laurie, Jeff Cory and Peggie Castle. Rude Maté, director.

Warner Brothers

- ROBERT BURKS, "The Enforcer," (United States Pictures) with Humphry Bogart, Roy Roberts, Ted de Corsia and Bob Steele. Bretnaine Windust, director.
- LIONEL LINDON, "Only The Valiant," (Cagney Prod.) with Gregory Peck, Jeff Corey, Ward Bond, Terry Kilburn, Lon Chaney, Jr. Gordon Douglas, director.
- HARRY STRADLING, "Streetcar Named Desire," (Chas. K. Feldman Group Prod.) with Vivien Leigh, Marlon Brando, Kim Hunter. lia Kazan, director.
- ERNEST HALLER, "Jim Thorpe, All-American," with Burt Lancaster, Charles Bickford, Phyllis Thaxter, Steve Cochran. Michael Curtiz, director.
- WILFRID CLINE, "Lullaby Of Broadway," with Doris Day, Gene Nelson, Billy de Wolfe, S. Z. Sakall and Ann Triola. David Butler, director.
- TED McCORD, "Goodbye My Fancy," with Joan Crawford, Frank Lovejoy, Eve Arden, and Virginia Gibson. Vincent Sherman, director.

Kodak Color Handbook

Eastman Kodak Company announces its new Kodak Color Handbook, an attractive metal-ring binder containing four new Kodak Color Data Book sections. These provide information on "Color As Seen and Photographed," "Color Photography Outdoors," "Color Photography In The Studio," and "Kodak Color Films."

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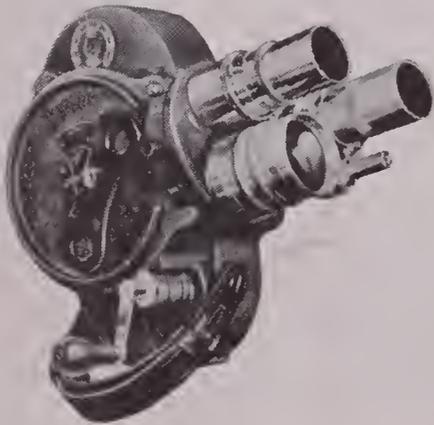
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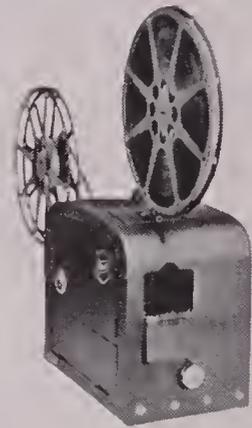
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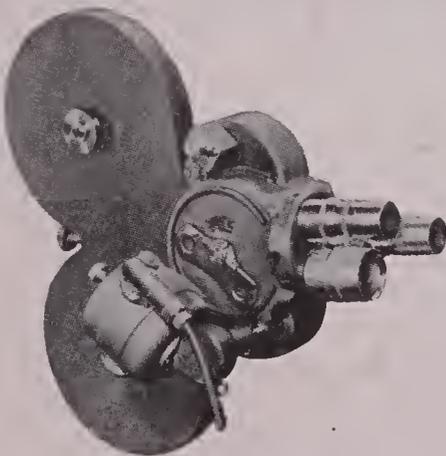
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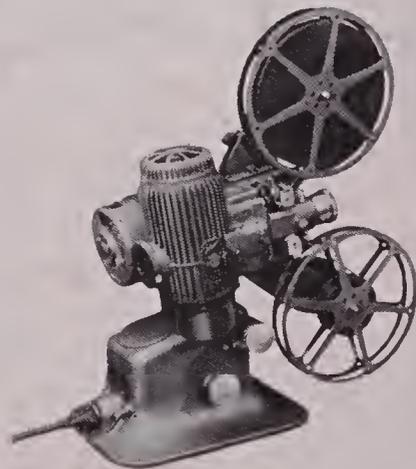
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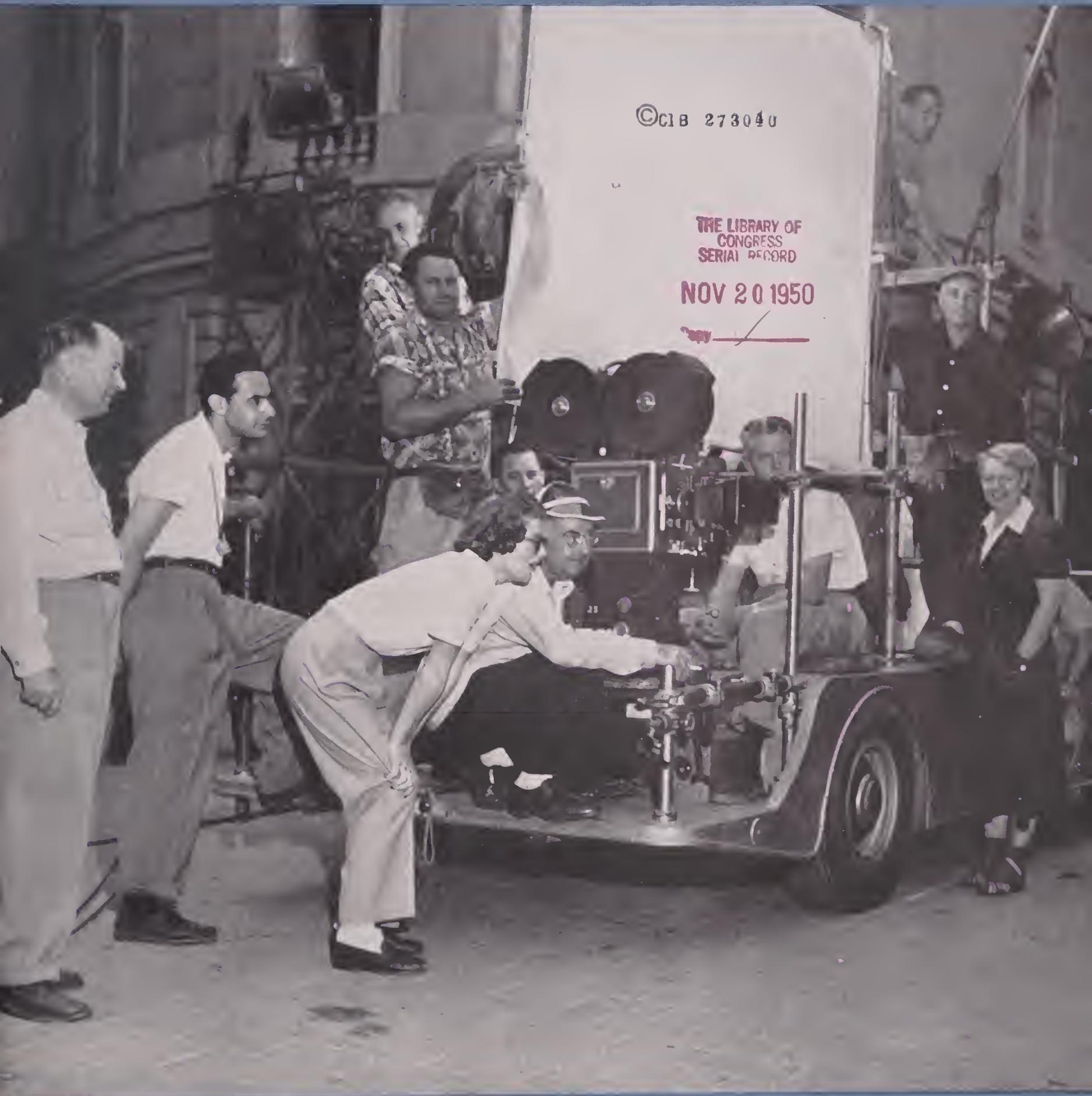
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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY



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**Economy Factor In Making TV Films • Organize Your Editing •
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**NOVEMBER
1950**



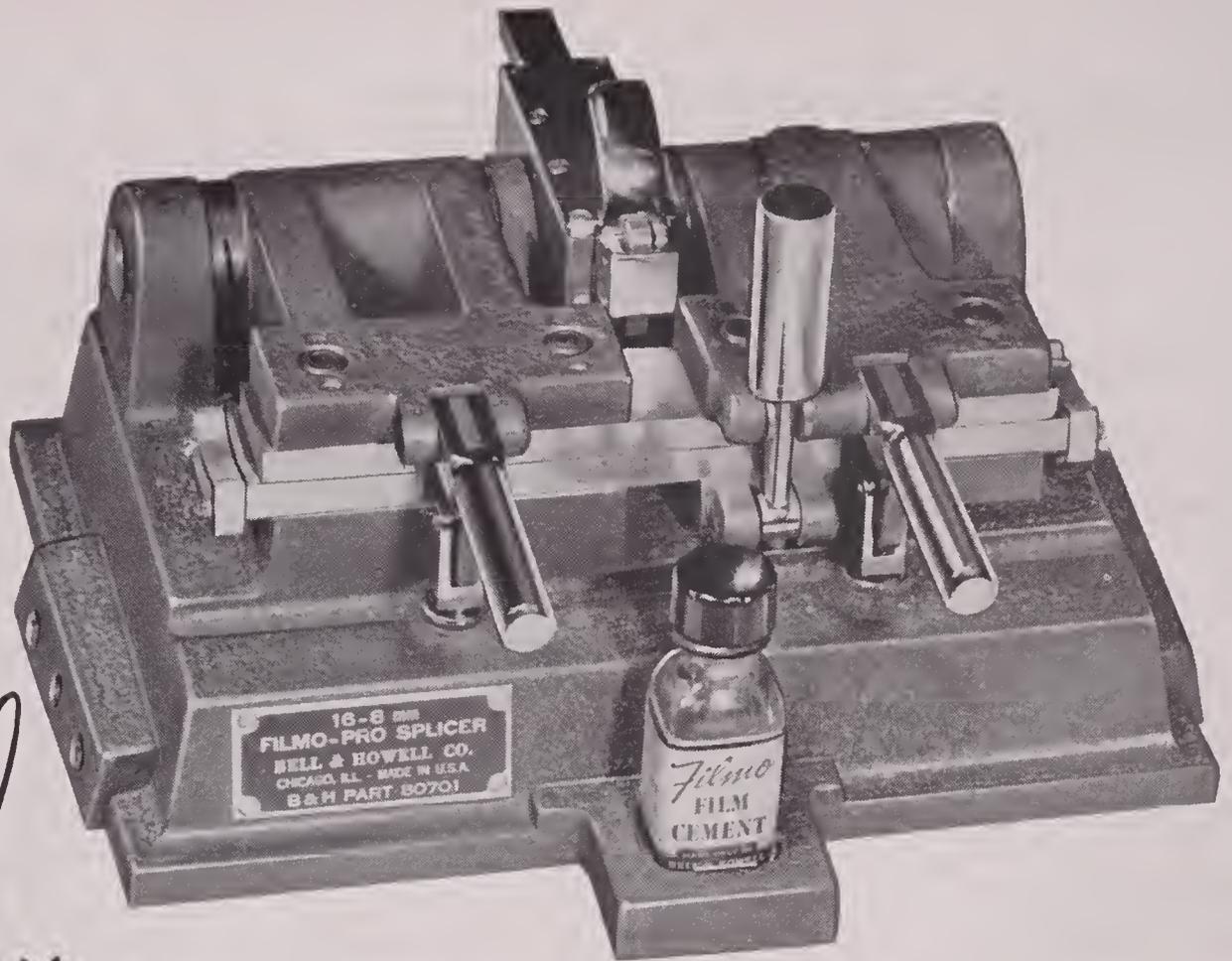
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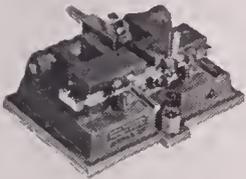


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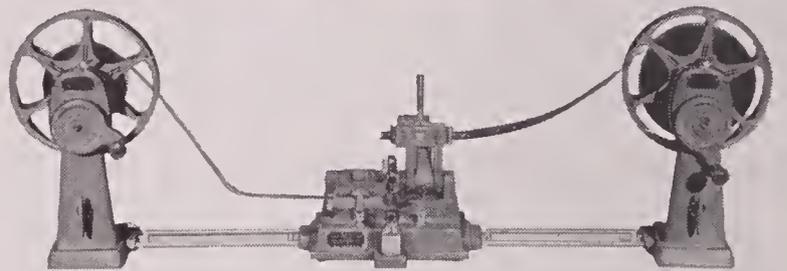
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ON THE COVER

CAMERA ANGLE — Director of photography Robert Planck, A.S.C., (with eye shade) gives a few pointers on photography to Sarah Churchill during filming of Metro-Goldwyn-Mayer's Technicolor musical, "Royal Wedding." Director Stanley Donen, assistant director Marvin Stuart and other members of crew are interested spectators. Picture also shows interesting use of huge diffuser in front of giant sun arc for special lighting effect. — *Photo by Robert Quirk.*

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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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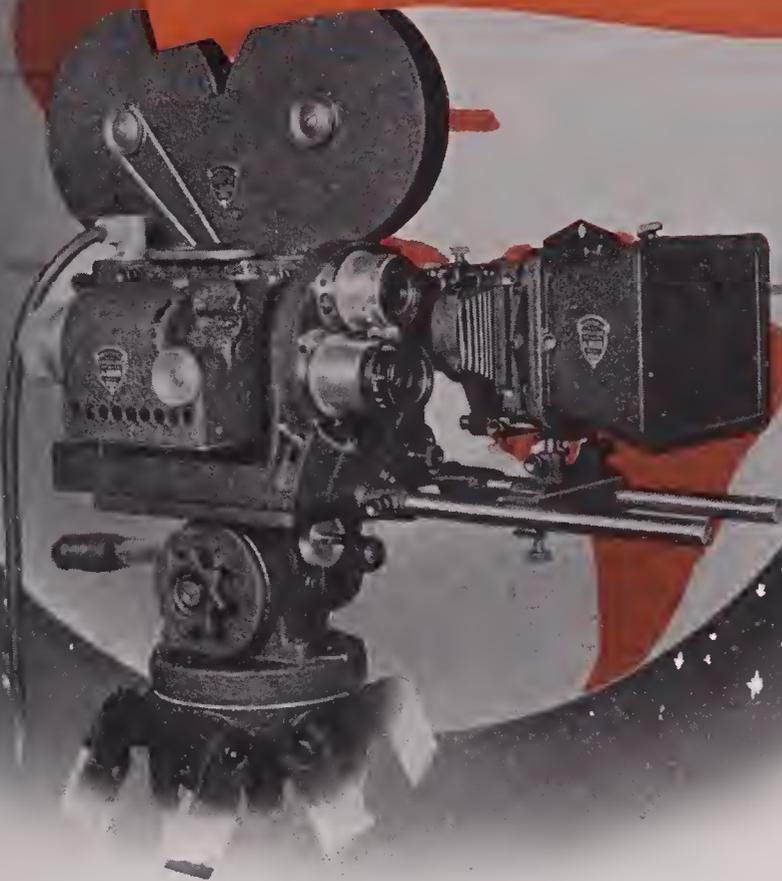
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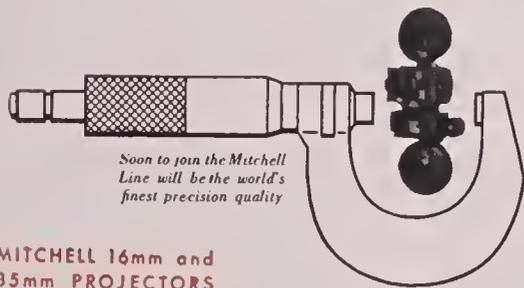
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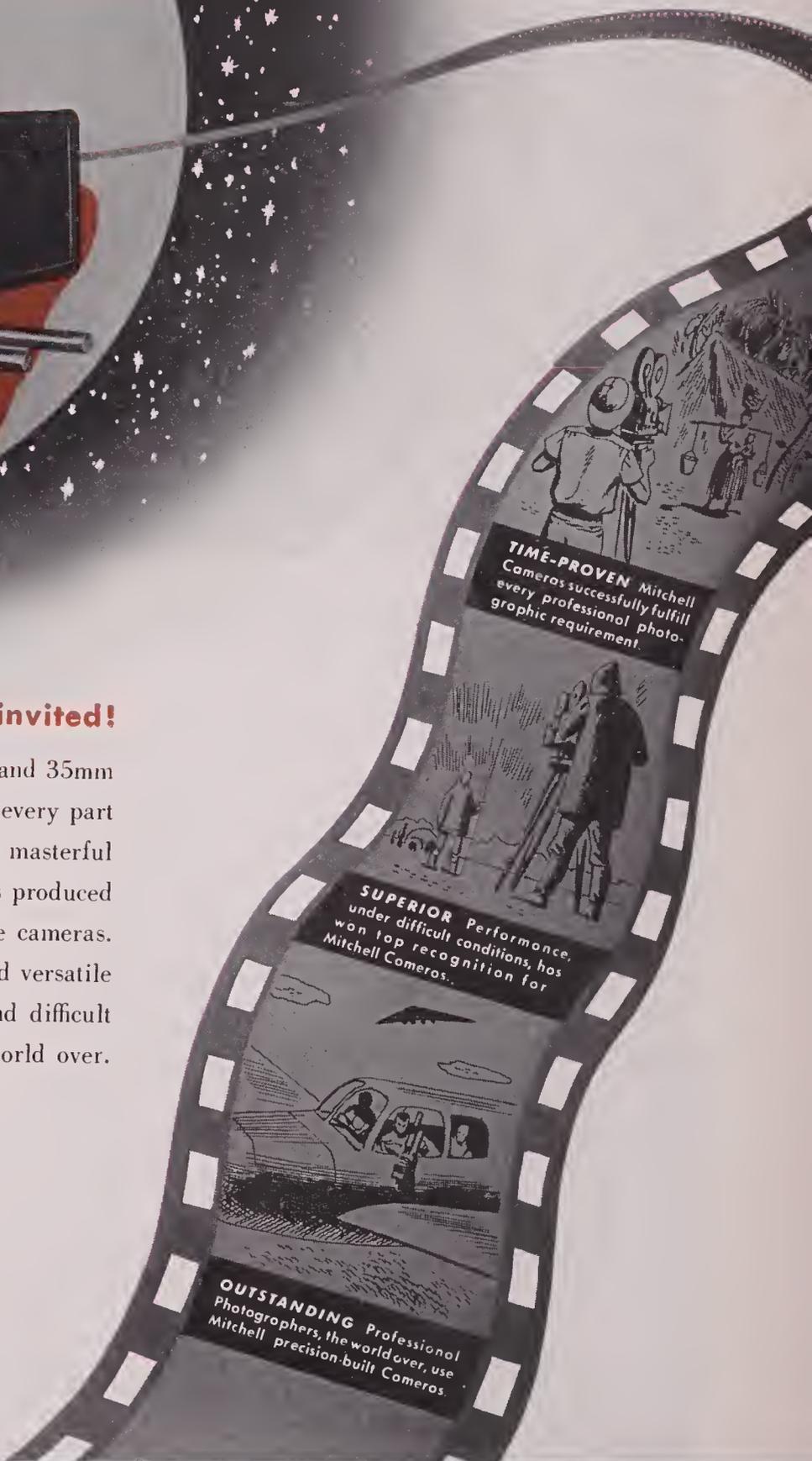
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Hollywood Bulletin Board

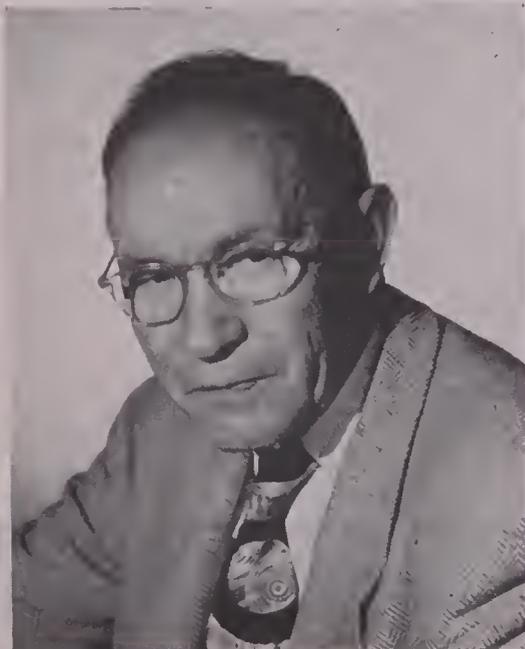


CHARLES CLARKE, A.S.C. (center, front row), in Australia to direct the photography on Twentieth Century-Fox's Technicolor production, "Kangaroo," was feted in Sydney recently by Australian cameramen and heads of the cinema industry there. These included Arthur Higgins, Bill Terise, Frank Bagnall, Frank McKechnie, David Eastman, Ron Horner, Denis Hill, George Heath, Eric Bierre, Sydney Wood, John Leake, and H. Stuart-Codde.

November 1st is starting date set by Twentieth Century-Fox for its Technicolor production, "Kangaroo," to be filmed in Australia. Director of photography Charles G. Clarke, A.S.C., has been in Sydney several weeks preparing crews and camera equipment for the job. In all Clarke has five cameras and a small army of technicians at his disposal. Production will be shot with Fox's own cameras, using monopack, the picture edited in monochrome, and finally cut

and printed from the original negatives in Technicolor. Result will be same as if Technicolor film and cameras were used.

In addressing Aussie industry group recently, Clarke said he believed present trends indicate artificial sets are largely going out of use. "They're costly to build, never as convincing as the real thing, and raise enormous problems of camera movement and cutting," he said. He also sees closed circuit television units eventually incorporated into motion picture cameras to provide electronic viewfinders for directors of photography, enabling them to keep an accurate check on what the cameras are taking, as they are taking it.



JOHN SEITZ, A.S.C., winner of the A.S.C. Picture Of The Month Award for photography of Paramount's "Sunset Boulevard."

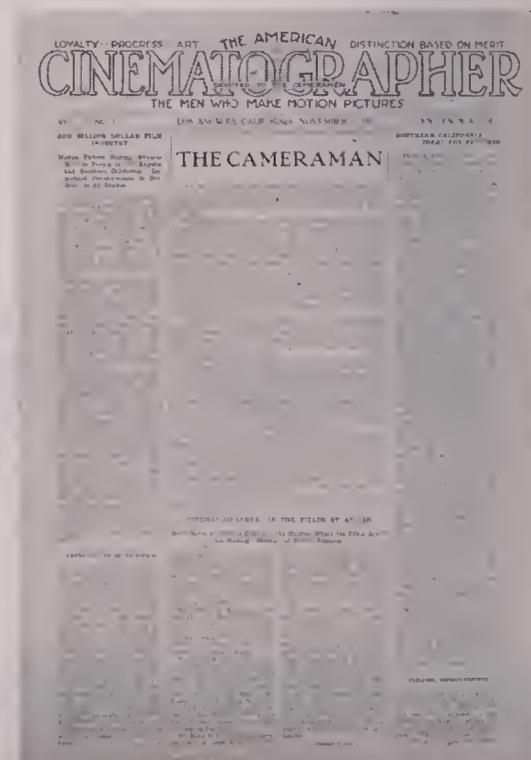
John Seitz, A.S.C., has won his first award for photography of Paramount's "Sunset Boulevard." American Society of Cinematographers has singled out his cinematic accomplishments in this picture for its "Picture Of The Month" award for August. Picture is rated an excellent contender for an Academy Award and other national awards for its photography. Seitz, for many years one of Paramount's cinematographic stalwarts, will be remembered for such other outstanding photographic successes as "The Big Clock," "This Gun For Hire," "The Lost Weekend," "Miracle of Morgan's Creek," and "Five Graves To Cairo."

American Society of Cinematographers, last month, admitted seven new members to its ranks. New resident members include Faye Brown, director of photography with Columbia Pictures; Ellis W. Carter, director of photography for past 20 years with Pine-Thomas and Paramount, now with Columbia; Linwood G. Dunn, director of photography, special effects, R.K.O.-Radio studios; Donald C. Glouner, director of photography at Columbia; Ernest Miller, director of photography at Columbia; and Harold E. Wellman, director of photography at R.K.O.-Radio. Elected associate member was William Eglinton, head of the camera department at R.K.O.-Radio.

American Cinematographer is 30 years old this month. Three hundred sixty consecutive issues with never a miss is a proud record in this particular field. It would not have been possible without the enthusiastic cooperation and support of AC's thousands of subscribers and its many loyal advertisers, several of whom have appeared consistently in the magazine almost since its inception.

Today, *American Cinematographer* is read the world over wherever movies are made. It not only goes into the

(Continued on Page 397)



THE FIRST "American Cinematographer." Above is replica of Vol. 1, No. 1 issue of *The American Cinematographer*, published on November 1, 1920. Current issue marks publication's 30th year.

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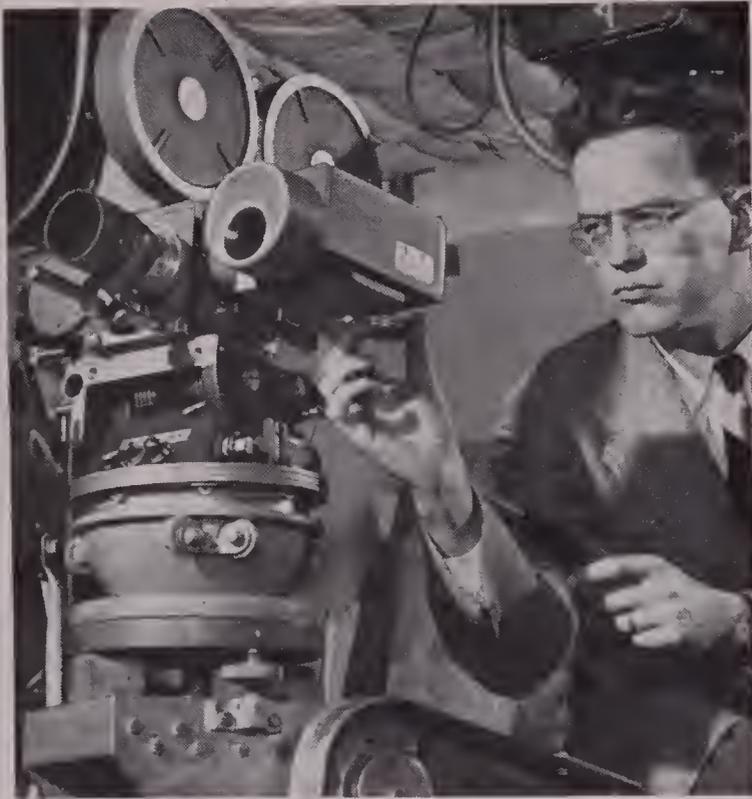
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COLOR EXPERT David L. Quaid, one of the nation's leading free lance cameramen, sets up his Maurer 16 mm., prior to shooting a scene for an industrial film. He, and dozens of free lance cinematographers like him—know, use and recommend the Maurer camera.



ACE CAMERAMAN and leading film producer, Irving Hartley of Hartley Productions, N. Y. C., shooting a scene at Chichicastenango, Guatemala, for the Pan American World Airways color travel film "Wings to Mexico and Guatemala."



TOP ANIMATION TEAM—William S. Nemeth, Cameraman, of Transfilm, Inc., teams up with a Maurer 16 to work out camera effects for a slide motion picture. This leading film company selected Maurer as the 16 mm. camera that best fills its needs.

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THE SINGLE TV camera employed on many budget video shows is made to do the work of two or three by means of a dolly which enables the operator to follow the action in long, sustained shots, but with variety in the camera angles. It also requires a cameraman figuratively mounted on roller skates to keep up with demands of the changing action.



THIS SAME IDEA has been adapted by producers of video films to add further economies to production of such films. More recently the multiple camera technique above has been employed in shooting films for television, the increased cost of cameras and crews being offset by economies in time, salaries of players and general overhead expense.

IN THE PAST few years, which might conservatively be called the "trial and error" period of American television, certain techniques of production and transmission have become fairly well standardized. But even with the strides that have been made, it is obvious to those who work day by day in the new medium that the surface has only been scratched, and that TV is today on the threshold of a period of refinement during which we may expect a far greater degree of technical finish and production quality.

One fact that has emerged quite clearly during television's experimental years is that the motion picture is inseparably linked with television. There are even those who go so far as to predict that the motion picture industry will inevitably become "married" to TV. Whether or not this is true remains to be seen, but it is a fact that a large percentage of Hollywood technical facilities are being utilized at this time in the production of films for television. And although we have as yet only about 100 television stations in this country, there already has developed an acute shortage of acceptable films to supply the needs of those stations.

When one stops to realize that motion picture film (including kinescope recordings) accounts for from 50% to 100% of the programming on the nation's TV stations, the importance of the motion picture to the new medium becomes quite obvious. In fact, it is safe to assume that film will become more and more essential to programming as time goes on, even after coaxial cables do away with the necessity of kinescope recordings (which are admittedly a poor

Economy Prime Factor In Producing Films For TV

Careful pre-planning key to successful TV making, says KOTV's production director, citing influence of live show techniques in the photography of better films for video.

By HERB A. LIGHTMAN

Production Director - KOTV-Cameron Television

second both to straight live shows and direct motion picture photography).

There are several reasons for this: Firstly, the visual scope of live TV is definitely limited by such factors as budget, stage space, time transitions and mobility of equipment. Some of these limitations will be minimized as time goes by, but they can never be completely eliminated. Secondly, even if adequate rehearsal time could be given each TV show (which is impractical for at least a dozen reasons) the likelihood of "fluffs," both technical and dramatic, would still be ever-present. There are no *retakes* in TV, a fact only too painfully evident to those of us who also work in motion pictures. When a live scene goes out over the air, whether it is good or bad, there is nothing that can be done to change it. In filming, if a scene is not up to the standard of excellence we simply retake it until we are satisfied—and if the final footage still lacks pace or smoothness, we can

work further improvements in the cutting room.

When films were first used on television in this country, it became obvious that motion pictures made for showing on theatre screens were not perfectly suited to the video medium, and that certain adaptations would have to be made in shooting films made for telecasting. Because of the relatively small size of the picture area of television receiver tubes, long shots were indistinct and lacked detail. Moving camera shots, especially those involving horizontal pans, often produced disturbing distortion at the picture edge. Lighting having a contrast suitable for satisfactory results on a theatre screen was found to be too harsh when the same films were projected on television.

Out of these observations emerged a new technique of motion picture production, a type of cinematography slanted expressly for the video tube. This "tele-

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INTERIOR of old Norman castle, built during the reign of King Edward I, was used for several interiors for "The Black Rose." Invariably director of photography Jack Cardiff was restricted to light units placed outside windows and throwing light into the interior. Result: simple and strikingly realistic illumination.



ONLY two M-R "Brutes" and a few 150-amp. arcs were available for lighting cavernous interior of the massive stone castle.

Shooting A Medieval Documentary

PARADOXICAL though it may sound, "The Black Rose" could justly be called a medieval documentary. This picture photographed in Technicolor, is notable for its realistic backgrounds in comparison with the usual artificial atmosphere of studio-built sets. The period film is perhaps the most difficult of all to make because costumes, wigs, "antique" sets and furniture are so much more obviously make-believe than modern settings and are instantly connected

Lighting ancient stone castles or interiors of desert tents, and painting desert sands black for night shots are just some of the technical problems encountered in photographing "The Black Rose."

By JACK CARDIFF, A.S.C., B.S.C.

with amateur theatricals, historical pageants, charades and the like. Somehow, studio-built castle sets always look what they are—thin plaster facades; film suits of armour usually look terrible—dulled down for cautious cameramen until they resemble silver painted cardboard; costumes always look so glaringly new—and Technicolor certainly helps to put a new coat of paint on everything!

In "The Black Rose," director Henry Hathaway brought the welcome fresh air of realism into dusty concepts of the period picture. This realism is his key-

note, as can be seen from all his great pictures in the past, but this time he had a problem: his authentic backgrounds were spread over many thousands of miles.

Well, it was done.

The story called for great stone castles in England, so we searched and found the genuine articles—magnificent Norman castles actually built during the reign of Edward I. And when the story traveled to the exotic East, through shimmering deserts, snow-capped mountains and bustling Arab cities, so we traveled too, a colossal odyssey of over one hundred technicians and stars, 1000 camels, 500 horses and £2,000,000 worth of material.

It was conducted like a military campaign under "Generalissimo" Hathaway.

DIRECTOR Henry Hathaway and director of photography Jack Cardiff (right) line up a shot inside ancient Norman castle for "The Black Rose."

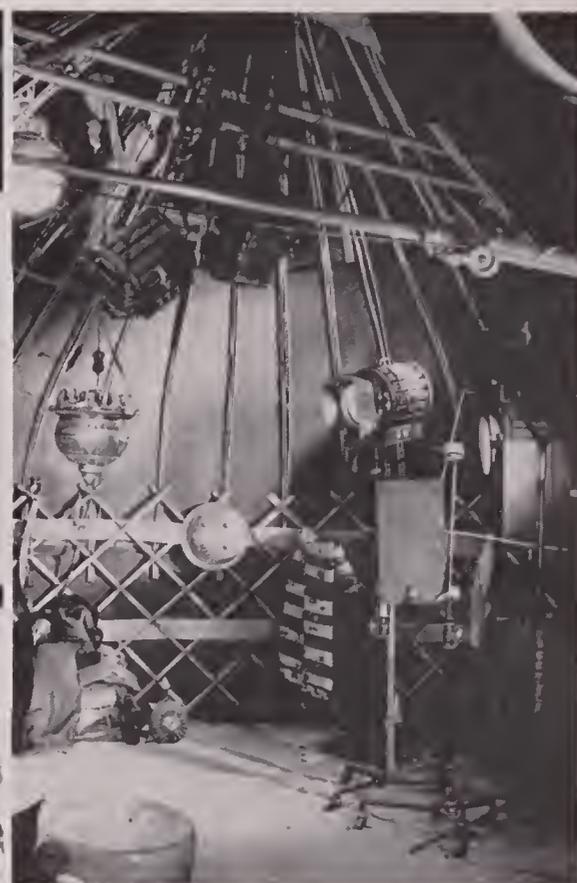




PHOTOFLOOD strip lights (arrows) mounted out of camera range in arches helped produce natural window glow in castle scenes.



WHERE camera faced bright windows, neutral density filter gelatins were applied to surface of glass to balance lighting.



INTERIOR of native's tent on a location in Morocco, showing some of the lighting equipment used for illumination.

Air shuttle services covered the 1,800 mile air route, and daily air and sea shipments included such items as 150 tents, 12,000 arrows, 1,000 Mongol bows, 200 lances, 300 swords, 200 Chinese costumes, 200 Mongolian costumes, Chinese ornamental dragons and £3,000 worth of animal skins. All these costumes were worn daily for weeks before required, until they really looked as though they belonged to the wearer. Ty Powers' costume was really odd, cost practically nothing and was worn and stained with a realism no one could doubt.

Then Hathaway rightly despised wigs; those conventional curls always look about as real as Santa Claus at Macey's—and so the leading actors had the authentic Medieval close cut.

Every prop in the picture was closely scrutinized and, in most cases, studio-made swords, wallets, trunks, etc., were replaced with the genuine antique article.

Tyrone's white cap was originally on the dusty head of an Arab boy in Morocco. I grabbed it, paid the boy a few pennies for it, and Ty used this hat in the picture. Although powdered with germicide, it was never washed!

Our suits of armour were shining authentic antiques. I had to be careful placing lights, but even a flare was better than that silver paint look.

All this realism paid unquestioned dividends, but I hardly need say it was difficult technically. After we had shot those tremendous desert scenes—long, long shots of hundreds of tents—we were then supposed to cut to the interior of a tent. Done later in the studio? Oh, no. Done right there on the spot! Inside a black camel-hair tent on a burning desert. Imagine doing dialogue scenes

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TENT INTERIORS were shot on actual locales in the burning desert of Morocco, aided by a few arcs and a 1000-amp. mobile gas generator.



SOMETIMES sunlight reflectors were put to use to augment light of the arcs in filming interiors of the black desert tents.

Quick Change, Up Or Down

Thanks to new hydraulic lamp stand, key and backlight positions may be altered in less than sixty seconds.

By A. ROE



HYDRAULIC lamp stand at minimum height. Stand affords elevation range for Seniors and Brutes from five to 13½ feet.



OPERATOR at hydraulic controls. A flick of switch will elevate lamp stand to desired height; opening valve at left will allow it to descend.



LAMP STAND at maximum elevation. Used chiefly for key and back lights, it affords quick changes in lamp position without need for erecting or reconstructing parallels.

A COMPARATIVELY recent development in set lighting aids for motion picture studios is the electric-hydraulic lamp stand developed by Ralph Hoge of Thomas Rentals, Inc., Hollywood. Its chief function is to provide quick and easy change in elevation of key lamps on a set without need for erection or reconstruction of lamp parallels.

Where this lamp stand is not in use, often a director's sudden decision to alter a bit of action on the set means the key light and possibly the backlight must be raised or lowered. If the lamps in question are set up some distance from the floor on parallels, they must be removed temporarily and height of the parallels changed to conform with the lighting needs of the change in action.

This new lamp stand makes such light changes possible instantly and without the costly delays entailed where parallels must be moved or altered. Where a script change means moving a player several feet forward from the position for which the lamps were originally placed, for example, a flick of a button lowers the lamps to the new height necessary to supply key and back light for the player's new position. If lamp angle must be changed, this may be done quickly by lowering

the lamp completely, changing its angle, then elevating it again—all in a matter of a minute or less.

The lamp stand is designed to accommodate the heavier lamps ranging from Seniors to Brutes, or those lamps normally used for key lights or three-quarter back-lights and cross-lights for Technicolor. Elevation range (of lamp centers) is from five feet to 13½ feet. The stand may be fitted with a cross arm, if necessary, to accommodate special light placement in intricate sets. In such cases, the cross arm is counterweighted to insure proper balance necessary for smooth operation of the hydraulic shaft.

The lamp stand base is the conventional tubular tripod type fitted with 10" by 2½" pneumatic rubber-tires and wheels, making possible use on location or lot as well as on the sound stage. At the base is mounted the hydraulic pumping mechanism and the electric motor drive, and here also is connected the cables leading to the grid. From the top of this housing two extension cables run to the lamphouse, and are ample to accommodate the largest lamps at the maximum height.

To elevate the lamp stand, the operator merely flicks a switch which sets the hydraulic motor drive in motion, raising the lamp at a moderate rate. To lower the lamp, a small valve is opened, allowing the stand to recede slowly. When lamp has reached the desired level, the valve is closed, and the lamp remains stable at this position until changed again.

Economy-minded independent producers, of course, have been the first to realize the money-saving potential of this equipment and as a result the stands are in almost daily use at Motion Picture Center and General Service studios in

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BELL & HOWELL'S Design 5205 Model D 35mm. continuous film printer has been greatly improved with eight new features.



THE 16mm. PRINTER, Design 5205 Model J, also improved with same features as 35mm. model plus a new "safety margin" feature.



NEW TYPE circuit interrupter, incorporating an Acro switch (arrow), now replaces old style contact-type circuit switch.

Bell & Howell Continuous Film Printers Improved

New features on both 16mm. and 35mm. machines increase final printing results and aid laboratory personnel in the handling of film.

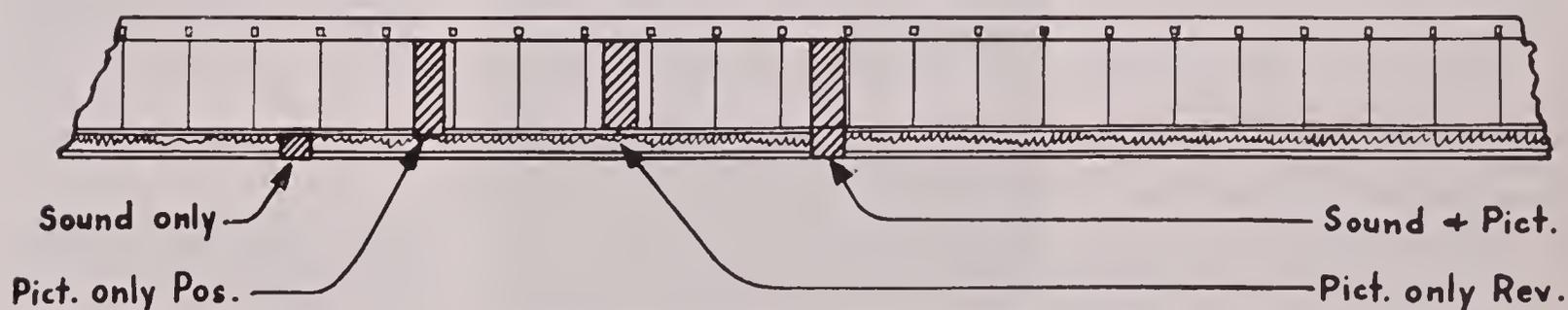
By LEIGH ALLEN

NUMEROUS modifications and improvements of two Bell & Howell continuous film printers are such as to make them virtually completely new machines. All of the changes are the direct result of laboratory personnel suggestions resulting from actual field performance tests with the Model J 16mm. and Model D 35mm. printers. In other words, Bell & Howell Company sent its engineers out among its equipment users in the laboratories and studios of the motion picture industry and received first hand ideas and suggestions for certain improvements for what was already

considered tops in film printing equipment in the industry.

Among the more important improvements are the stainless steel ball-bearing film rollers which replace the old solid cold-rolled steel bearings. All feed and takeup guide rollers on both the 16mm. and 35mm. printers have been re-designed to include the new ball-

DIAGRAM BELOW shows how new printer jaw on the 16mm. model allows a .006" unexposed area between sound and picture on reversal film; .006" double exposure on positive — providing a safety margin band between picture and sound track.



bearing film rollers. This change is an important improvement in that it prevents binding of guide rollers and the consequent damage to film.

A new type circuit interrupter incorporating an Acra switch now replaces the old style contact-type circuit interrupter on both printers. This switch is pre-set at the factory for maximum efficiency. Much longer life is said to be a salient feature of the new Acro switch.

Both the 16mm. and 35mm. printers now feature a new type motor starting switch which is recessed in the printer pedestal, at the same location previously occupied by the old porcelain switch. The new switch is of the toggle type and is enclosed, thus eliminating all possibility of arc or flash.

To insure greater film protection, all printers are now equipped with friction-type feed flange film hubs that retard inertia of the film when the printer mechanism is shut off, thus avoiding unravelling of the film roll, causing the snapping of the film on the feed flanges

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Save The Surface And Save All

Growing use of lacquer coating for both 16mm. and 35mm. films safeguards negatives and extends life of release prints.

By FREDERICK FOSTER

INCREASING use of motion picture film outside of the large, well-equipped motion picture studios, such as in the 16mm. and television film industries, has brought with it a number of problems for producers arising from handling. Two factors which tend to impair screen quality are film abrasion and oil mottle. Abrasion or scratching is caused by careless handling of the film when rewinding the original negative from one reel to another; when handling the negative during the break-down process; when viewing the negative in a Moviola or other type of film viewer; or improper handling when projecting, cleaning, rewinding, code numbering, etc. Today, film producers are demanding positive protective measures that will safeguard their original negatives against such damage.

Oil mottle is another serious harmful effect which mainly concerns the positive or release print. Usually oil mottle is the result of running a film through a projector which has been carelessly lubricated so that some of the excess oil is transferred to the film where it remains until it is removed by a suitable cleaning process. Too often oil on film is not considered a dangerous condition and it often happens that oil that gets on a film during its initial screening remains there for the entire life of the film, greatly impairing its screen quality, of course.

The modern treatment of film, both color and black-and-white, as a protective measure against abrasion and oil mottle consists of coating both film surfaces with lacquer.

Lacquer coating affords many advantages which the practical minded film user cannot fail to ignore. Actually, no film surface will indefinitely resist abrasion and scratches—even treated film surfaces will become scratched. In this connection, however, lacquer coating provides a primary advantage, in that normal abrasions and scratches do not penetrate the protective lacquer coating to damage the film surface. Since the scratched lacquer coating may easily be removed and the film re-lacquered, indefinite protection is assured the film surfaces, and new print projection quality continues. This process can be repeated

as long as the perforations are good, thus extending the useful life of the print.

The advantages of lacquer coating negative footage and other original films, especially if quantity prints are to be made from them, is definitely obvious. In lacquer coating the producer has a film protection process equally effective for originals and production prints.

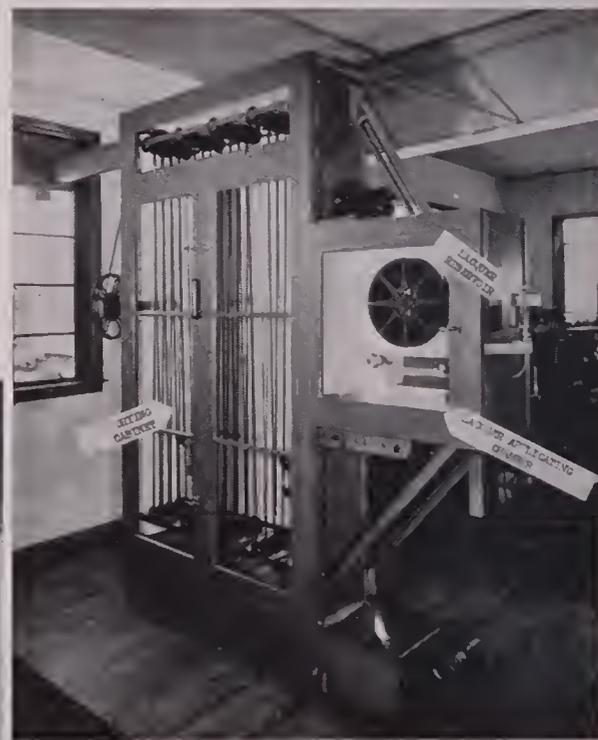
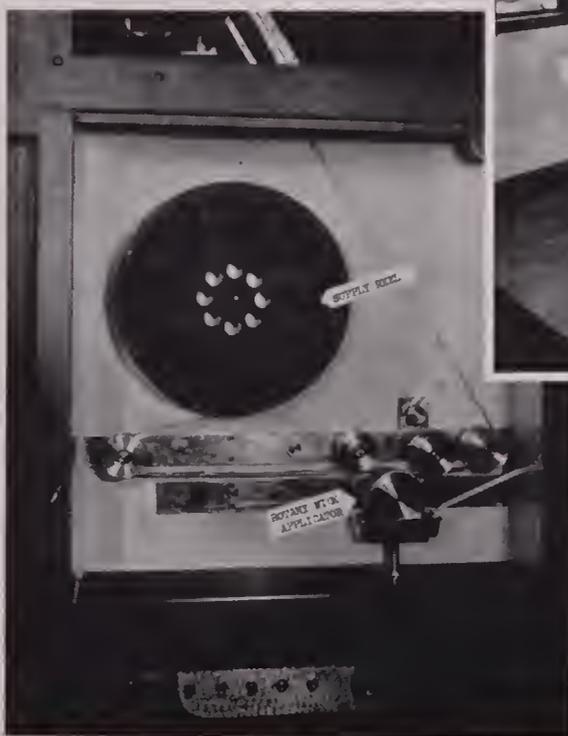
Lacquer coating possesses additional virtues. For example, since it seals in the normal moisture content of the film, shrinkage and brittleness are reduced and the film remains pliable, thus minimizing breakage hazards in projection. This same sealing action of the lacquer coating tends to seal in the dyes in natural color film.

Danger of first run damage to recently processed film is virtually eliminated by lacquer coating. This is accomplished by the lubricating effect of the lacquer, which prevents chatter or strain on the perforations from emulsion gathering on the aperture or pressure plates. It is evident that by lacquer coating both sides of the film, extra protection is achieved for films used in continuous projectors, and for any film likely to receive extremely hard use by extended running.

The disturbing projection quality due to noticeable flicker caused by oil mottle on the film is probably considered a more serious problem than occasional abrasions and scratches, which usually escape the observation of the average audience.

In coping with this problem, lacquer coating makes another distinct contribution to film protection and the requirements of excellent projection quality. Screen flicker due to oil mottle on the film is, for all practical purposes, undetectable with lacquered films. Since the glossy lacquer coating and oil spots on the film possess similar light transmission characteristics, the screen effect of oil mottle is practically eliminated. It is the difference in the transmission properties of uncoated film and oil spots that aggravates screen flicker. From the

(Continued on Page 393)



CORNER of Escar's motion picture laboratory, showing lacquer coating machine for 16mm. and 35mm. films. Controlled heat and filtered air quickly dries coated film.

GLASS-ENCLOSED dustproof lacquer applicator is shown at left. As film leaves supply reel, it travels over rotary applicator which deposits thin coat of lacquer on film surfaces.

On the set —
On location — —
On the screen — — —

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By every test
Is faultlessly
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The happy photographer who "shot" this family scene is smiling a lot herself!

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INSIST ON *Ansco* 8 and 16mm TRIPLE S PAN FILM

ACTUALLY it is quite easy to organize the editing of your films in such a way that the cutting becomes no chore at all. It can even be a very pleasant and creative experience if you don't let it overwhelm you. There is a mechanical or formula routine which is followed by professional cutters and which the amateur movie maker can adapt very conveniently to his own use.

Ideally the editing of a film should begin even before the shooting stage. If the cameraman will roughly outline sequences of scenes that he wants to shoot in a certain locale, he will not only save film and insure better continuity, but he will also be able to do quite a lot of his cutting in the camera—thus reducing the editing chore to a minimum. If such a scene list is made out in advance or at the time of shooting, have it handy as a guide when editing.

The first step in the organization of your cutting is to arrange the various rolls of film in order as shot and give each a consecutive number. Then project each roll or run through a viewer. If scenes were not "slated" during shooting, an identifying number should be scratched on the emulsion side of the first few frames of each scene. Badly-exposed or discard scenes should be marked so they can easily be culled out

Organize Your Editing

Good editing depends not only upon the footage included in the final cut, but also upon that which is left out.

By CHARLES LORING

later. As the rolls are thus previewed, another descriptive list should be made of the scenes in chronological order, using the identifying numbers, and giving a brief resume of the camera angle of and the action in each shot. For example, the designation of one random scene might read: *Scene 28 - LS - Uncle Jack in motorboat pulling away from shore toward camera.* If you recall the action of your footage, brief descriptions such as this will serve to clearly establish the scenes when you start to assemble them later.

When all scenes on all of the rolls have been catalogued in this manner, you are ready to start "breaking them down." This consists of cutting the scenes apart and culling out those which have been marked for discard. The good scenes are carefully rolled up, taking special pains to avoid scratching or other

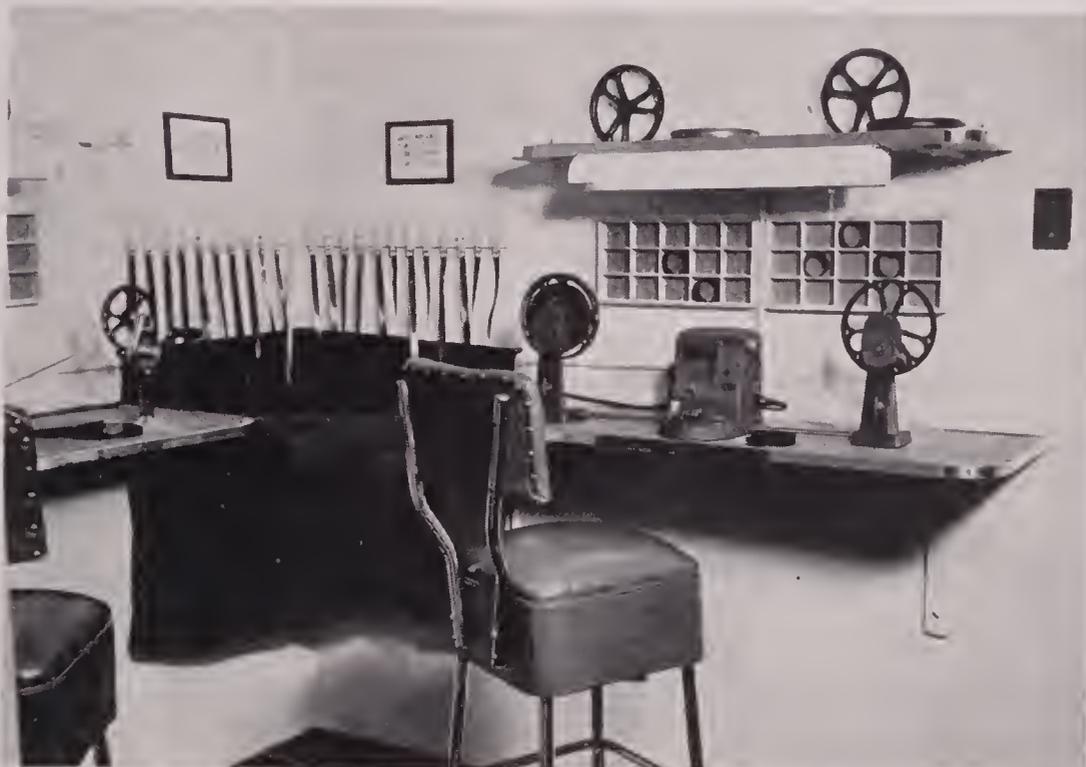
damage. Each scene thus rolled is secured with a rubber band, and a slip of paper on which is marked the number of the scene is inserted under the band for instant identification. Most amateur film editors build or purchase pigeon-hole boards divided into 50 or 100 separate shallow compartments, each of which bears a painted number, similar to that shown in accompanying photo. Each scene is merely rolled up and placed in the compartment corresponding with its number.

Now you are ready for the process known as "cutting on paper." It is here that the descriptive scene lists which you made in breaking down the film really come in handy. Using these lists, you arrange and re-arrange the scenes in various orders until you achieve a pattern which you feel will have the desired continuity. Many editors find it handy to make out these lists using a separate 3 x 5 card for each scene, so they can be shuffled about with greater ease.

In doing this "paper" cutting, you are concerned not only with arranging scenes in their logical sequence according to continuity of action, but you are also interested in getting as much variety and pace into the editing as possible. You should see to it that each sequence is well established with a long shot, and that the locale is also re-established from time to time with a similar shot. You should endeavor to use your closeups for full effect, placing them where the action requires a close view of the subject for clarity or variety. Where it appears that you have left gaps in the continuity during shooting, scan your scene list for related scenes that may be used as cutaway shots to bridge these gaps.

Incidentally, there is no better way to learn how to cover a subject fully from the standpoint of continuity than to do your own editing. In the cutting room you will quickly learn what shots you neglected to make, and why these shots are so vital to a smooth flow of action.

(Continued on Page 396)



A WELL ORGANIZED editing table showing two of the important features mentioned in Mr. Loring's article: the pigeon-hole film strip holder immediately above film viewer, and muslin sack film receptacle and pinning rack, left-center. Adequate tools make a simple task of film editing.

Advantages Of Variable Shutters In 16mm. Cine Photography

By JOHN FORBES

PERHAPS the least understood feature of the cine camera is the shutter. How it functions, what its effect is on the exposure, and the comparative results to be obtained with shutters of various size openings is something that is rarely considered by the novice cine-fimer. But to the advanced 16mm. movie maker, all this is quite important, even though his camera may only feature a shutter of the fixed type.

To describe briefly the functions of the cine camera shutter, when we expose a frame of cine film, the film is held motionless in the camera for a fraction of a second. Before the next frame can be exposed, the film must be advanced in the gate in order to bring an unexposed frame in place for the next exposure. During this advance of the film, the light coming through the lens must be cut off momentarily, and this is the function of the shutter. In most 16mm. cameras the shutter is of the rotary disc type. Part of the disc is cut away to permit the passage of light to the film for the exposure. The disc shutter rotates continuously as the camera is operated.

Obviously, the larger the opening of the shutter, the more light reaches each frame of film and consequently the greater is the period of exposure. But there are some definitely limiting factors. Most important of these is the mechanical problem of moving the film. During the period between the exposure of two successive frames (that is, the time period during which the shutter is "closed"), the film must be started, moved, then stopped dead. Clearly, if

the open part of the shutter is large, the film must accelerate, move and decelerate very quickly. If the open sector of the shutter is smaller, the film can be moved more slowly and, accordingly, more gently. But we pay for this less strenuous movement by getting less light for the exposure.

What has all this to do with ordinary camerawork, you may ask, remembering, of course, that changing speeds and shutter openings are possible only with a few cine cameras. Well to explain further, suppose we have an ordinary still camera and the established exposure for a given shot is $f/8$ at $1/25$ second. If we shorten the exposure time to $1/50$ second, we will have to open up the lens a corresponding amount—to $f/5.6$ —in order to secure the same exposure.

It's the same in cine camera work. Suppose we are using one of the popular cine cameras which has a shutter opening of 204° . This gives an exposure interval of $1/27$ second at 16 f.p.s. If we shoot a scene with this camera and find that $f/8$ is the right stop to use, the resultant exposure will be different from what another cine photographer would secure with a camera having a smaller shutter opening. Let's say the other photographer's camera has a shutter giving a $1/48$ second exposure. If he is to match our exposure on the scene, he will have to shoot it at $f/6.7$ (or lens stop nearest this figure, i.e. $f/6.3$). If we, with our $1/27$ sec. shutter, are shooting at $f/2.5$, the other filmer will have to open up to $f/1.9$ to get comparable results; and if we are

shooting at $f/1.9$, the other fellow with the faster shutter (giving less exposure per interval) won't be able to shoot the scene successfully at all, for he would have to use a lens opening of $f/1.1$ to match our exposure.

Another point to consider is that by using the smaller lens stop, the lens will have much greater depth of focus than would the lens on a camera with a smaller shutter opening; and this difference would be increasingly noticeable as the lens was opened wider or focused on nearer objects, as for closeups.

On the other hand, in the matter of getting clear pictures of fast-moving objects, the camera with the smaller shutter opening offers a distinct advantage. It affords a shorter exposure interval and this in turn means that fast moving objects will have less time to move during an exposure, and consequently less blurr will result.

Obviously, the solution to the shutter problem for the advanced amateur's cine camera is the adjustable shutter, same as found on standard 35mm. motion picture cameras. This would permit adjusting the shutter opening to suit the shot. All professional 35mm. cameras used in the studios have variable shutters and most of them allow adjusting the shutter opening while the camera is running, if necessary. This has proven a very valuable adjunct in shooting scenes where the camera moves in and out of dark areas, or for trick effects where speed of a person or an object is to be altered without stopping the camera.

Of the 16mm. cine cameras in popular use today, two are provided with variable shutters, adjusted manually by the operator—the Eastman Cine-Kodak Special and the Pathe "Super 16." This feature has been used mainly for making fades and lap dissolves, but it presents other cinematic possibilities also.

Here are some of the ways 16mm. cinefilmmers may benefit their cinematography by varying the shutter opening—ways that the professional cinematographer long ago employed to improve the quality of his camera work:



204° - 1/27 Sec.



180° - 1/32 Sec.



135° - 1/42 Sec.



50° - 1/115 Sec.

Relative exposure intervals afforded by camera shutters of various size. The smaller the shutter opening, the faster the shutter "speed" with greater ability to "stop" action.

Most obvious, of course, is the making of fades and lap-dissolves. This in itself justifies the variable shutter as standard equipment on the advanced amateur's cine camera.

Next, and much more important, is the control of exposure without altering lens setting. Remember, reducing the lens opening increases depth of focus, and increasing the aperture size reduces depth. Such changes between closely related scenes are not pleasing; and when light fluctuations, such as a cloud passing over the sun, for example, make such changes necessary within a scene, they are doubly objectionable. By controlling the light with the shutter, such depth of focus contrasts can be avoided.

If, for instance, we refer to the chart on page 144 of the new 1950 edition of the *American Cinematographer Handbook*, we see that if we are shooting on one of those days, say, when small clouds are obscuring the sun, we can set our lens at, say, $f/8.3$ and the shutter at 90° and get the same exposure as though we shot at $f/11.3$ with the shutter opened to 170° . With cameras having a variable shutter, when a cloud suddenly appears to reduce the light falling on the scene, the exposure can be kept uniform (in relation to preceding shots) by simply opening the shutter to a wider aperture. If the clouded light would be a normal $f/8.3$, all we need to do is open the shutter to 170° and we get the effect of increasing the exposure to the proper value without changing quality of our picture.

The same procedure may be followed in panoraming and in making moving camera (follow) shots. Suppose we are following a person with the camera, walking from bright sunlight into heavy shade. Let's say there is a good three-stops difference in the exposures between the lightest and darkest areas of the scene. We can begin the sunlit end of the shot with the camera lens open three stops wider than normal—say $f/5.6$ —and the shutter closed down to about 50° . As our subject moves into the shade, the shutter is opened up to an aperture of 170° . Throughout the shot, both exposure and quality of picture will be uniform, for we offset the changing light by increasing exposure time from $1/115$ to $1/34$ second. The same expedient will also prove useful in super-speed "slow-motion" shots, as well as in making undercranked fast-action scenes.

Finally, the controllable (variable) shutter will prove its worth in scenes of fast moving action. By reducing size of the shutter aperture, exposure time is cut, resulting in crisp, blurrless pictures.

"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

"Did the first tests making some publicity films with Cine-Voice and the results are marvelous."
E. Van Calck
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"We have been using Auricon equipment for the past year by renting. We are now we prefer Auricon."
Don Cooper Photography
Detroit, Michigan

AURICON ?

"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

"We tested this Cine-Voice Camera and found it to be superb. It was promptly sold and we would appreciate immediate shipment of another unit."
Paul Rubenstein
Tampa Home Movie Center
Tampa, Florida

"Have had the pleasure of seeing the Auricon...it's sensational."
John R. Davis
Duffy's Clovis, New Mexico

"Being a satisfied user of the Auricon-Pro Camera in our Television Motion Picture Department we are interested in your new camera, the Cine-Voice."
P. K. DeBeaubien, TV Studio Supervisor
KSTP-TV
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"The Auricon-Pro which we have been using on Television work has been giving excellent results."
George C. Coon, Mgr. Photo Dept.
Creative Advertising
Cincinnati, Ohio

"The Cine-Voice was sold to a very happy customer 30 minutes after we received it."
C. M. Hadden
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"I took home a Cine-Voice Camera and made a test film and was very pleased with the results. The sound track was excellent and the picture was very steady."
M. Winn
Central Camera Co. Chicago, Ill.

"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
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"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.
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"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

"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

"I have completed the initial tests with the Auricon Cine-Voice and I am pleased beyond words."
Lester E. Bernd
Wellsley Hills, Mass.

"We have handled considerable film that has been passed through the Auricon for different ones and...these results have been very satisfactory."
Rudolph Pfeiffer, Sales Director
Kin-O-Lux New York City

"I would like to compliment your organization on the Camera itself. We have taken over 50,000 feet of film with the Auricon, and have had perfect results..."
Don J. Pottratz
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"The Department of Agriculture has tested the Auricon and it is recommended for use."
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Entry Blanks Now Available For American Cinematographer's 1951 Amateur Motion Picture Competition

**Judging and classification of films begins
December 1st. Contest closes March 1, 1951.**

MOVIE AMATEURS from all over the world will compete in American Cinematographer's 1951 Annual Amateur Motion Picture Competition. Unlike last year's contest, participants do not have to be a member of nor be sponsored by an Amateur Movie Club. This year, contestants will enter their films direct.

Inquiries regarding contest rules have been received from amateur movie makers in Britain, Holland, Italy, South Africa, France, India and Japan—indicating the widespread interest in AC's 1951 competition.

There are to be ten trophy awards this year for the ten best films submitted in the competition—*ten American Cinematographer Awards* presented by the American Society of Cinematographers.

Contest rules are simple:

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 neces-

sary 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.

Films may be submitted on or after December 1, 1950. Closing date of competition is midnight, March 1, 1951. Results will be published in the April, 1951 issue of *American Cinematographer*.

As in the past the panel of judges who will evaluate films in this year's competition will be six prominent Hollywood directors of photography—all members of the American Society of Cinematographers and each an 8mm. or 16mm. movie making enthusiast.

Qualify your entry early by mailing in your entry blank without delay. Write today for your entry blank, using the coupon below.

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_____

"PROFESSIONAL JUNIOR" Camera Equipment...

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

Interchangeable - Removable Head Tripods



FRICITION 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.

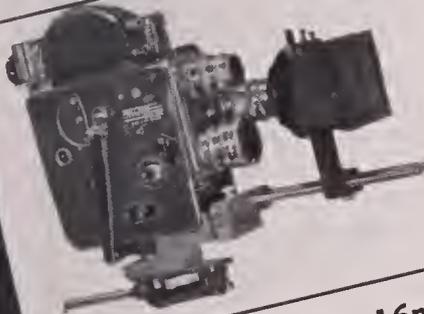
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5 1/2 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.

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

SUNSHADE & FILTER HOLDER COMBINATION

For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. glass filters and 2 1/2" 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.



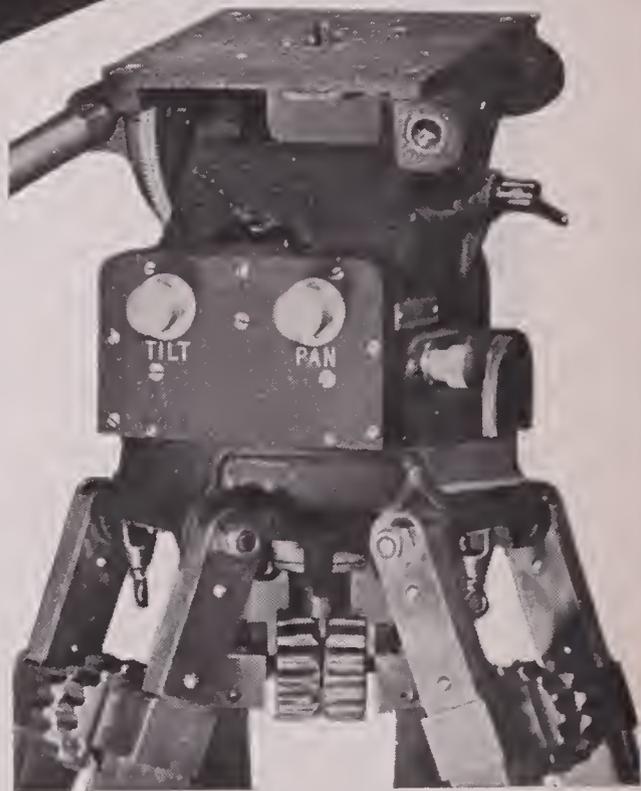
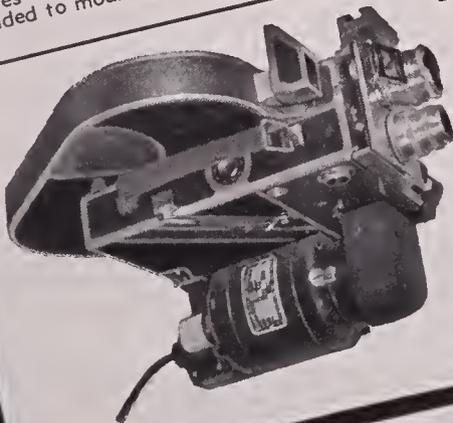
BLIMP for EK 16mm. CINE SPECIAL

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 spring-steel drive of camera and is mated to spring-steel that 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 1/4" and 3/8" camera tie-down screws. Rubber covered cable with plugs included.



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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 3/8" or 1/4" inch camera screw.

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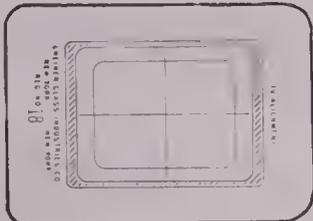
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FILMS FOR TV

(Continued from Page 377)

photography" is characterized by an emphasis on close-ups, with a corresponding avoidance of extreme long shots. Extreme contrasts in lighting have given way to a modeled, but relatively flat lighting that rarely goes beyond a ratio of 4 to 1. Sets and costumes are designed in such a way as to avoid the use of solid blacks and whites, two tones which in the extreme tend to cause an effect known as "bleeding." Moving camera shots are still used, but the horizontal pan and tilt have given way to dolly movement straight in to or out from the set. There is a reversal in dramatic approach in that performers are now urged to *play to the camera*.

This new approach to cinematography has been adapted not only to commercials, but to entertainment films conceived especially for showing on television. Several series of dramatic, comic and western films using this technique already have been completed, and a great many more are slated for early production.

One of the most skillfully produced series made especially for television is "The Lone Ranger," produced by Apex Film Corp. and adapted from the famous radio series of the same name. The technical excellence of this film series, which was photographed by Mack Stengler, A.S.C., is the result of a good deal of experimentation carried on before actual shooting began. Various camera effects and treatments were tried and the results projected on a closed television circuit, so that a true appraisal of the film's video rendition could be made. While a certain number of long shots are an integral requirement of a western film, these are held to a minimum and are often drawn from a stock shot library of such scenes shot economically all at the same time on location. Other "exteriors" are shot on the sound stage using a standard set which can be approached from many angles for variety. A huge cyclorama skillfully painted to simulate a cloud-filled sky often forms an excellent background for these scenes.

The "Ranger" series makes good use of close-ups and emphasizes action while managing to keep that action within the bounds of relatively tight compositions. Each episode for a 30 minute time slot is filmed in two days, and when one is finished another is begun immediately—resulting in a production average of three films a week. At this writing 78 separate episodes have been completed. Detailed pre-planning plus unusual teamwork between cast and crew have

permitted this prodigious schedule without any loss of production quality.

From a successful series such as "The Long Ranger" can be drawn several guideposts to efficient film production for television—and indeed it will be necessary to adopt such an approach at least until the FCC freeze on new stations is lifted. With only 100 stations as possible outlets for any film, the budget factor becomes most important—and it becomes correspondingly clear that such films cannot be shot with the production value and apparent lavishness of the Hollywood entertainment feature.

Pre-planning is the key to successful TV film production. All programming for television is set up in units of 13, 26 or 52—and the planning for a series must be done on an overall basis. A basic formula must be established and adhered to throughout, so that the scripts will have certain common denominators while retaining enough variety to allow each episode to stand alone as a separate unit of entertainment. The basic formula, however, will allow the grouping of sets and set-ups for economy in shooting. Personnel expenses can be held to a minimum by similarly grouping sequences requiring an unusually large cast or crew. But such economics cannot be effected without detailed overall pre-planning. An extra bit of time spent at this stage will pay off many times when production gets under way.

In searching for rapid and economical shooting procedures, several filming techniques have been adapted from the methods we use in staging live shows. Some stations, particularly in their daytime programming, use only one television camera on certain low-budget shows. The method is far from ideal, artistically speaking—and it requires a cameraman figuratively mounted on roller skates to keep up with the demands of moving in and out to follow the action. However, they do manage to get shows on the air in this manner, while holding production costs to a minimum.

This method, with certain refinements, can quite successfully be adapted to filming for television. Stated in simple terms, a script is broken down for shooting in such a way that individual sequences which would ordinarily be further broken down into separate scenes, are instead filmed in a single "take" lasting anywhere from two to ten minutes. Variety and the illusion of separate shots is achieved by dollying in and out, and by panning with the action throughout the take. This system has the basic advantage of allowing the filming of a considerable part of the script all in one fell swoop, so to speak—and if properly

WORLD'S LOWEST PRICES ON U. S. AIR FORCES EQUIPMENT

CAMERAS

BELL & HOWELL 70 DA 16mm. x 100' capacity\$175.00

AKELEY CAMERA AND TRIPOD, 35mm electric operation, 12 or 24 volt, or hand-operated; speeds of 16, 24, 32 and 48 f.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, 4 1/2" f/4.5, three Akeley 200' magazines; Akeley Tripod; Akeley electric motor drive, 12 or 24 volt, complete with cable; power pack, 12 volt, in case. Price Complete.....\$450.00

CHRONIK BROS. 35 mm camera, case.....\$40.00

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

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TAYLOR-HOBSON, 40mm f/2.....\$ 95.00

HOBSON COOKE KINIC ANASTIGMAT, 75mm f/2.....\$ 90.00

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16mm x 800'\$.98
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NATIONAL CINE 12-VOLT BATTERY CASE, (PH403).....\$ 14.00

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MITCHELL MOTOR CARRYING CASE \$ 14.00

MITCHELL MAGAZINE CARRYING CASE for two 1000' magazines.....\$ 18.50

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

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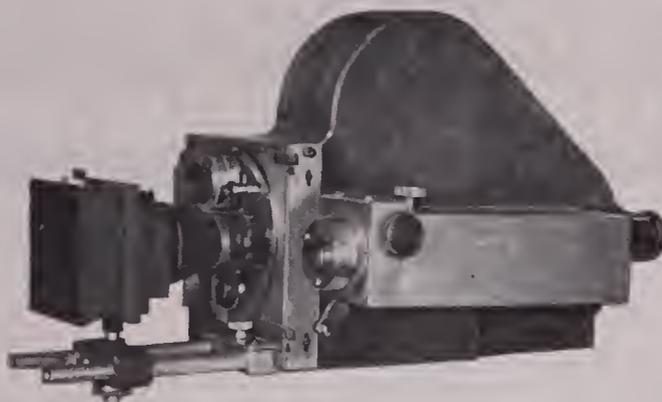
(MORE COOGAN SPECIALS ON PAGE 394)

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THE WRAPS ARE OFF! A new professional 16mm. camera with radically new features important to every commercial, educational and television film producer. The NORD insures top photographic results under most adverse filming conditions. The result of five years of careful research and development, this camera has all the desirable features you require including:

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- 240° shutter insures lighting economy—two lights do work of three.
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- Priced under \$2,500.

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PRECISION "T" STOP LENS CALIBRATION

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Equalize your lens stop on all focal lengths for proper exposure density by having them "T" Stop calibrated now.

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AMERICAN CINEMATOGRAPHER, 1782 No. Orange Dr., Hollywood 28, Calif.

filmed, a great smoothness of continuity can result.

However, the above mentioned method cannot be approached haphazardly if any degree of professional quality is to be achieved. On the contrary, the script must be very carefully analyzed and all camera stops (individual compositions) plotted to complement the action to best advantage. If there is a certain subtle bit of action, for example, one must make sure that the camera will be in close-up position at that point in order to present that action clearly and forcefully. It goes without saying that each sequence should be thoroughly rehearsed in advance so that action and camera will coincide, camera movement will be smooth, and follow-focus will be accurate. If slight fluffs are made during the filming of long sequences, these bits can be "picked up" by separate shots from a different angle, and spliced in to the master scene later.

The multiple-camera technique of shooting with three or more cameras simultaneously is gaining favor. The increased cost of a triple camera crew is more than offset by economies in time, salaries of principal players, and general overhead expense. Using this method 30 minute shows can be shot in a surprisingly short time, assuming they are fully rehearsed.

The usual method is to set up two stationary cameras at different angles and with different focal length lenses. A third camera is mounted on a dolly to move in and out during shooting. Obviously, it is quite difficult to light for three separate angles at the same time—but a suitable compromise has been found possible by those successfully working with this method. The result, when edited, has the somewhat static quality of the average live show, speaking camerawise, but a great deal of action can be filmed with a variety of angles in the shortest possible time, and—granted that the subject matter is entertaining enough—a great many shows of simple format can be economically filmed in this way.

The future of film in television is very optimistic in view of the greatly increased activity in this field. The demand for good films shot especially for television grows steadily day by day. The very nature of the medium, requires a continuous flow of fresh material. Basically a visual medium, television already leans heavily upon the technical cinematic know-how developed through many years of motion picture production. The future of television and the future of the motion picture unquestionably lie in parallel paths which grow steadily closer each day.

SAVE THE SURFACE

(Continued from Page 382)

above, one might also make the observation that the glossy lacquer coating may contribute to projection quality by added brilliance to the projected image. Oil does not harm lacquer coated film, and it can be wiped off easily without damage to the film. In similar fashion, finger prints can be cleaned easily from lacquer coated film.

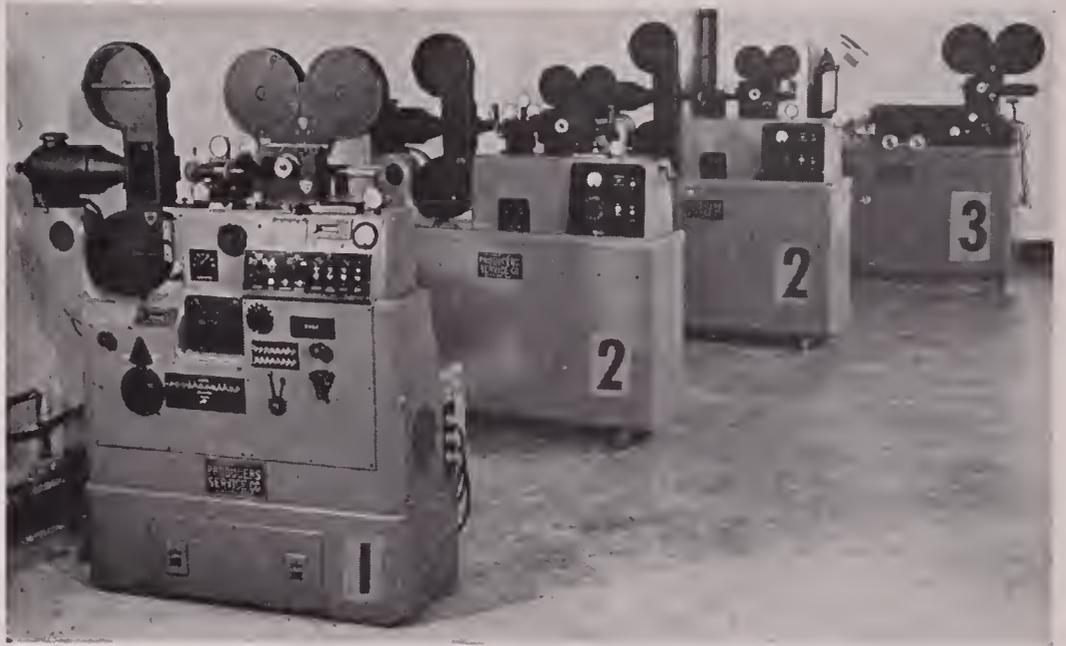
A surface coating with all the protective attributes and advantages already discussed may be presumed to be expensive in application. On the contrary, lacquer coating is so inexpensive that every film maker, film library, and distributor hardly can afford to do without it. Lecturers, particularly those who project original Kodachrome films with their talks, now are able to screen these films indefinitely when lacquer coated. In these instances, such films must be coated immediately after they have been processed and before they have been edited or screened for the first time. Coating of both sides of such films presents an additional problem in splicing in that both the emulsion side and the base sides of the film ends must be scraped before applying cement.

The question often asked is "To what extent does such lacquer coating itself become scratched?" or "Does such coating scratch more or less readily than normal film surfaces?" Laboratory comparisons have indicated that coated films have the same scratch resistance as untreated films. However, without a single exception, the experience with these coated films in the field have indicated that they are definitely more resistant to abrasion than uncoated films.

Two well equipped companies offering this film coating service to both 16mm. and 35mm. film users are The Larsen Company on the Pacific Coast and Escar Motion Picture Service, Inc., in the east. The former is located in the Pathe Laboratory, 6823 Santa Monica Blvd., Hollywood; the Escar company is situated at 7315 Carnegie Ave., Cleveland, Ohio.

Escar's coating machine, which is pictured here, consists of a chamber in which the stock to be coated is placed, wound on a reel, then driven past a roller-wick lacquer applicator. The film then moves into a drying chamber, in which clean air-flow and temperature are rigidly controlled, and finally emerges on an external takeup reel. Here the amount of lacquer applied is under precise control at all times.

The Larsen Company offers special coatings for originals, release prints and lecture films. They recently made a field



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We are proud to offer, in addition to the items listed below, and in our larger ad on page 348, a complete line of 16mm. and 35mm. negative and positive stock at a fraction of prevailing market prices.

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BELL & HOWELL 16MM FILMOTION EDITOR. Capacity 2000'. 115 volt. Complete with splicer, two-speed rewinds, power cord.....\$85.00
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BURCHELL CONTINUOUS PRINTER, 35mm printer used for continuous contact printing on paper. Unit is in self-contained case with light intensity control\$175.00
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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
OTTO K. OLSON CRECO, 2000 watt Mooul Bi-Post base 18" spotlight, less lens.....\$28.50
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 SOLAR SPOT, (M-R Type 410), 1000 watt or 2000watt, focusing, 9 7/8" Fresnel lens, double extension stand with casters. New.....\$98.50
MOLE-RICHARDSON CINELITE, (Type 16), 500, 1000 watt, double extension stand, casters, portable. New\$49.50

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Reel or can 16mm x 400 ft. used.....35c
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BELL & HOWELL 12-VOLT DC Studio Camera Motor.....\$295.00
ACME ANIMATION MOTOR.....\$475.00

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BELL & HOWELL 400', composition..\$ 48.50 ea.
BELL & HOWELL 1000'\$115.00 ea.

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MOVIOLA, 35MM, MODEL D. New.....\$325.00
MOVIOLA, 35MM, MODEL D. Recond.....265.00
MOVIOLA, 16MM SOUND. Three heads; separate sound and picture or composite may be run. Model ULPCS. Like New.....\$1285.00

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late style governor. Guaranteed.

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test to evaluate the effectiveness of their release-coat treatment under actual trade conditions. A feature picture was placed at their disposal and a portion of it given the release-coat treatment at the time of release. The entire feature was then put into service and shown in all types of theatres. At intervals the print was returned to the Larsen laboratory for examination. Screen tests of the coated and uncoated sections clearly indicated that

abrasion of the coated portion of the film was considerably less than that of the untreated portion.

Considering the tremendous savings afforded by such protection, the cost for lacquer coating is quite nominal, running around one or two cents per foot. In both the Escar and Larsen processes, the old protective lacquer coating may be removed and the film re-treated to give extended service.

SHOOTING A MEDIEVAL DOCUMENTARY

(Continued from Page 379)

in this frying hell, in a desert hundreds of miles from anywhere, with the fierce sun piercing through so that no one could touch our Technicolor b'imp without getting a severe burn—not to mention the added heat from my arc lights.

As we could see outside as well, it was necessary to boost my light level up to balance the glaring light of the open desert. All the usual tricks were used—gauze, gelatine, etc., but it was still a headache.

While in the desert, too, we came to a night scene to be shot in daylight. Blue filters? Neutral density grads? Yes, but that glaring desert! And we also had to see camp fires burning!

That scene was really great fun to do. I had the whole area—about five acres—sprayed black, leaving only circles of light sand around the fires to represent a glow. Then each group around the fires held mirrors, silver and gold papers, which they reflected both as a fire effect and on their faces! It was a comical sight to see in daylight but quite effective on the screen.

When we shot in the Sultan Hassan's Palace at Marrakish (where 250 wives used to live) I had the same problem: extremely bright outside which forced me to open my lens wide for difficult interior lighting in a room without any studio facilities of any kind. I got away with murder on most occasions by shooting when the sun was obscured by clouds and, although the exterior was still over-exposed at wide open aperture, the result was equivalent to the sun being full out.

My location lighting equipment was small: 2 Mole-Richardson brutes, six 150-amp. arcs, and a few filler lights, powered by a 1000-amp. generator, so that I could never use all lamps at once and each lamp had to be placed to do its very very best.

It was in the English castles that I faced up to most problems. In the majority of cases I could only have lamps outside looking in, sometimes with no filler light at all.

This enforced austerity, however, produced interesting results; the fact that I had so few lamps made the character of the lighting simple and realistic. No spottrails, therefore no phoney backlight effects. I'm sure all cameramen produce better work when their backs are to the wall.

To work inside four-walled rooms instead of fully-rigged open sets in a studio is certainly a headache, but invariably such situations bring a thrill of overcoming obstacles that we rarely experience when pampered with unlimited equipment and easy devices on a movie sound stage. But such were our problems and experiences in filming "The Black Rose."

FILM PRINTERS IMPROVED

(Continued from Page 381)

when the machine is again started.

The takeup flanges are friction-driven and made of light-weight aluminum, having a capacity of 1200 feet of film. Flanges operate independently of the film core, assuring instant starting of printer without danger of breaking or snapping film. The takeup drive is coupled directly to the new keyed hub designed to receive standard plastic film cores.

Laboratory technicians plagued in the past with the problem of the picture area "bleeding" into the sound track will hail another new feature on Bell & Howell Model J 16mm. printers—an adjustable printing aperture designed with four separate stops marked: "Sound Only," "Picture Only, Reversal," "Picture Only, Positive," and "Sound And Picture." The accompanying diagram shows how the new printer jaw allows a .006" unexposed area between the sound and picture on reversal film, and a .006" double exposure on the positive film. This provides a black safety margin band between the picture and sound track on all types of film.

THE LATEST **KINEVOX** SYNCHRONOUS MAGNETIC RECORDER

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WITH MOTOR DRIVEN EXTENSION ARMS*

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KINEVOX - BURBANK

*EXTENSION ARMS CAN BE INSTALLED ON ALL EXISTING KINEVOX RECORDERS

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There is accommodation for shrunken film on the Model J 16mm. printer, too. Although this modification will not be standard on new printers, and is available only on this model, it is now possible on special order to supply printers with relocated film rollers and aperture plates designed to accommodate shrinkage on positive film of 0 to .6%, and a shrinkage on negative film of .5% to 2.0%. The additional price for a printer so modified is approximately \$700.00. Printers thus equipped are idea for printing negative or original Kodachrome that is excessively shrunken.

For laboratories engaged in printing 16mm. color film, Bell & Howell has developed for special orders a new gate shoe for the 16mm. Design 5202 Model J printer that permits adding air pressure at the printing aperture. This shoe has been drilled with six holes and fitted with a compressed air channel that connects through the gate shoe bracket to an air valve. By applying air pressure through the air shoe to the film and counteracting with air pressure from the aperture housing, it has been possible to produce improved contact between films.

A high-intensity incandescent lamp for all existing Model D and Model J printers is available. This unit is complete with suction-cooled lamp house,

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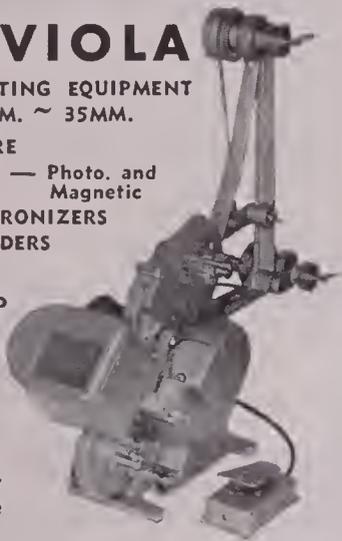
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See Classified Advertising on
Page 402 of this issue.

rheostat control, lamp removable filter holder, and 300-watt projection type pre-aligned lamp. This lamp is said to be essential for quality printing of black-and-white fine grain film as well as all types of color film.

A companion piece to the 300-watt lamp assembly is a new selenium type rectifier for supplying 115-volt, 300 watt

DC to the printer lamp. This rectifier incorporates a register to produce a dummy load or pre-heat to assure constant voltage in the direct current output. Once the rectifier is turned on in the morning, no matter how many times the printer is turned off and on throughout the day, variance in the output will not be experienced, according to Bell & Howell Company.

ORGANIZE YOUR EDITING

(Continued from Page 385)

By observing these details, you will soon become instinctively aware of the necessary scenes to form a complete sequence, and you will automatically make sure you get them on film when shooting.

When you have juggled your scenes on paper until they seem to form a pattern with good continuity, it is time to make the first rough cut. Line the scenes up in the order indicated on the "paper" cut list. A good method is to hang the scenes head up on an editing rack consisting of a wooden frame with a row of tiny nails on it, suspended over a bin lined with clean muslin, as shown in the illustration. In this way, you can visually check each scene in relation to the scenes that precede and follow it, correcting any inconsistencies which may be obvious.

Next, splice the scenes together in chronological order, being careful not to cut off the slate numbers or any identifying marks scratched into the emulsion. Leave these guides intact until you have checked the rough assembly of scenes on a projector; thus if any rearrangement is necessary, you will still be able to identify the scenes by number. Next, run the reel of rough-cut scenes on a projector, paying close attention to the flow of continuity. You may have to run the film several times before you begin to observe a certain flow and pace becoming apparent. Keep paper and pencil handy and make notes on further cuts or revisions to be made.

You may notice that some scenes are too long, that others have "dead areas" of action which should be trimmed out. Perhaps there is some jerky camera movement which can be deleted without interfering with the basic action of the scene. If you have overlapped action in staging your scenes, try to determine where the action of the two scenes matches especially well, permitting a smoother cut. You will find that complete notes taken on all these various points during screenings will prove very valuable when you actually start cutting.

Having organized your editing quite successfully up until this point, it is quite simple to follow through with similar

organization in the actual cutting. It is at this point that the average movie amateur becomes swamped with the task of bringing order out of celluloid chaos—usually ending up in a fairly frustrated state, with film all over the floor and a rather dim idea of just how to begin. The answer is to take a tip from the professional editor and work on one sequence at a time, beginning with the first and going on to the next sequence only when you are satisfied with the cut you have made. In cutting a sequence, think of it as an entity, so that sequence will have an overall flow and a unified meaning. This means that you will have to think ahead to a certain degree, because a cut that seems perfectly all right between two consecutive scenes, may seem less effective when viewed in terms of the other cuts that must follow.

In cutting, a good film viewer set between a pair of rewinds is essential. Consulting your notes, run your first two scenes back and forth through the viewer until you see a spot where a good cut can apparently be made. With a red grease pencil make a line across the film between the sprocket holes of the frames in each scene where you wish to make the cut. It is a good idea to extend this line into a T-shape, with the stem of the T extending into the "dead" area of the scene, or that which you will discard. This little trick will insure against cutting into the wrong part of the scene when you get around to splicing.

When you have marked an entire sequence for cutting in this manner, have yourself a splicing session and actually make the cuts. The editor who marks a single cut and then runs to make the splice not only wastes a lot of time, but he is apt to let the continuity of the sequence get away from him. It is far better to do the creative end of the cutting first, then attend to the mechanical part, or splicing, when the sequence is completed.

After splicing a whole sequence, attach leaders and run the footage on your projector in order to check the impact from the screen. Invariably there will be some

corrections to be made—scenes shortened for pace, repetitious action to be deleted, etc. When you have made these changes and are satisfied that the sequence is as good as you can get it, roll the film onto a reel, put it aside, and go on to the next one. After all of the sequences are completed, splice them together in the order planned and screen the entire film for one final check. Seeing all of the action unfolding in consecutive order, you will probably observe some minor corrections still to be made.

Good editing depends not only upon the footage that is included in the final cut, but also upon that which is left out. There is a natural temptation to include in your final cut a great bulk of the footage shot, whether it is up to standard or not. The film editor, especially in cases where he shot the footage himself, must exercise rigid discipline in deleting all excess footage and all scenes which are not up to his technical standards. In this way, he will not only have a more interesting and professional-like picture, but he will learn to make his photography more precise and expert.

Scenes which are not technically bad, but which are deleted for other reasons, should be spliced together, catalogued by means of a brief descriptive list, and filed in cans. In this way, an interesting and valuable film library may be built up for use in future productions.

BULLETIN BOARD

(Continued from Page 374)

homes and offices of the hundreds of directors of photography, camera department heads, producers and film laboratories in Hollywood, but reaches the cameramen, producers and processors of motion pictures in the vast 16mm. field and the rapidly growing TV film industry, both here and abroad. In addition, a substantial segment of its readers are to be found in the ranks of the advanced amateur movie makers.

As the recognized international "Magazine Of Motion Picture Photography," it has, more than any other medium, welded motion picture makers in all parts of the world into one common fraternity, which monthly looks to *American Cinematographer* for authentic news of latest technical developments in the production of 35mm. and 16mm. motion pictures.

Peter Mole, A.S.C., President of the Mole-Richardson Company, Hollywood, was elected President of the Society of Motion Picture and Television Engineers at a meeting of the Board of Governors which preceded the opening of the So-

(Continued on Page 399)

The MART MESSAGE

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BUFIT and CUTIT Film Kits, protect your film against scratches by buffing camera and projector gates free of emulsion pile-up and scratches; handy fifty foot roll in 16mm. or 35mm.\$5.00

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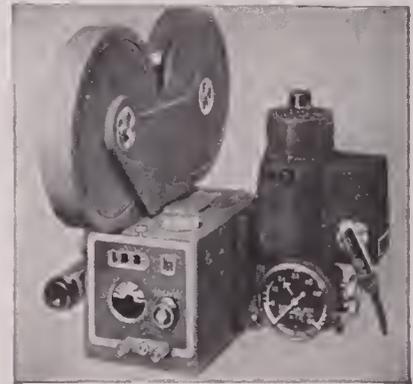
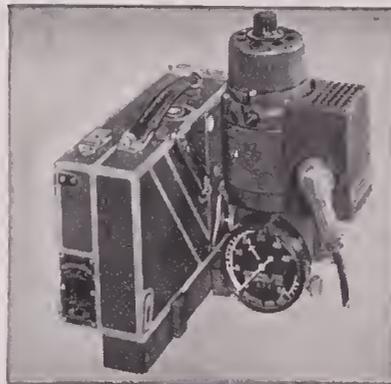
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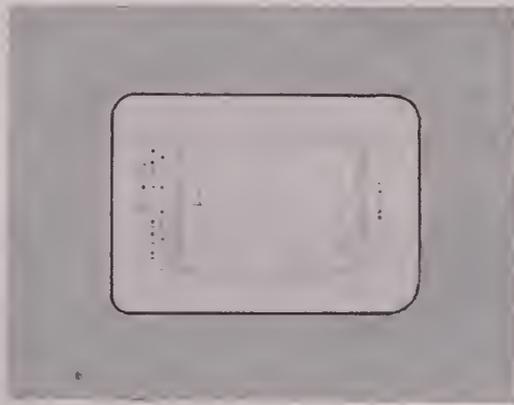
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WHAT'S NEW

in equipment, accessories, service

TV Ground Glass

Greiner Glass Industries Co., 781 East 142nd St., New York 54, N.Y., offers a replacement ground glass for 35mm. cameras used in filming motion pictures for television. The TV ground glass shows the full frame area of the motion picture film and the corresponding picture area of the television receiver tube. Thus, use of the TV ground glass



enables the cameraman to so compose his shots that none of the important part of the picture or scene will be cut off when the picture is seen on the television receiver.

Glass is furnished in a handy plastic carrying case with complete instructions for use. Price is \$24.50 and shipment is made by air mail or air express, according to the manufacturer.

Cinema Research Adds Facilities

Cinema Research Corporation, 7002 Romaine St., Hollywood, announces a new photographic laboratory service for television and commercial film producers consisting of a new method of producing live action with animation in one operation. The company has recently installed two additional Acme animation cameras—making three in all—each with special background projection unit.

Price inquiries and personal inspection of the company's facilities are invited from producers of 16mm., 35mm. and television films.

Sound Level Meter

Hermon Hosmer Scott, Inc., 385 Putnam Ave., Cambridge, Mass., announces a miniature sound level meter for measuring indoor and outdoor acoustics, machinery noise, and hearing requirements, said to be an ideal accessory for the motion picture sound engineer.

The unit, known as type 410-A, is about size of a small flashlight. Simple

controls allow operation by non-technical personnel. Miniature tubes and hearing-aid batteries make possible the compact design that meets specifications of the ASA for sound level meters.

Meter weighs slightly more than two pounds and covers the range from 34 to 140 db above the standard ASA weighing characteristics that duplicate the ear response at various loudness levels.

New Service

S.O.S. Cinema Supply Corp., 602 W. 52nd St., New York City, invites users of motion picture equipment to list with them unused and surplus equipment they wish to dispose of through outright sale, or to make available for rent. S.O.S. will offer such equipment to its large list of customers without charge.

RCA's Magnetic Recorder

RCA-Victor, Camden, New Jersey, announces availability of its new magnetic recording system, first demonstrated by the company at the Spring convention of the SMPTE. System includes magnetic recorder-producer, mixer amplifier, recording amplifier assembly and power supply designed for high quality professional magnetic recording. Both 16mm. and 35mm. systems are available in portable or rack-mounted units. Units weigh approximately 100 pounds and are 21¾ x 23½ x 13 inches in size.

New DeJur Camera

DeJur Amsco Corp., 45-01 Northern Blvd., Long Island City 1, N.Y., announces a new cine camera model—the DeLuxe Citation 8mm. movie camera finished in genuine black Morocco leath-



er with a brilliant band of satin finish chromium for contrast.

Camera has same mechanism as the Standard Citation model, including the exclusive DeJur features — instant "Drop-loading" and "No-jam gate."

Camera speeds range from 12 to 48 f.p.s. Equipped with an f/2.5 coated, color corrected, click-stop Wollensak lens, camera sells for \$84.50.

Improved Kinevox Recorder

Kinevox, Inc., 4000 Riverside Drive, Burbank, Calif., announces an improvement in the standard Kinevox magnetic recorder that affords 33 minutes of uninterrupted recording and playback. Larger extension arms for supply and takeup reels — each with its individual electric motor drive — assure fast, positive takeup of the larger rolls of magnetic film.

The extended playback and recording interval thus afforded is said to be ideal for needs of motion picture producers, radio and television.

New style arms are also available for installation on all Kinevox recorders.

BULLETIN BOARD

(Continued from Page 397)

ciety's 68th semi-annual convention in Lake Placid, New York, last month. Mole will take office January 1, 1951.

Among those receiving Awards of Fellowship in the Society were Fred W. Gage, A.S.C. and Charles Rosher, A.S.C.

Don Malkames, A.S.C., is in Spain shooting "That Man From Tangiers." Ted Pahle, A.S.C., who is Spain's leading director of photography, is acting as technical adviser on the picture. Shooting is going very slowly, Malkames reports, due to inferior equipment and lack of the many facilities normally found in studios in America.

Twentieth Century-Fox is planning further increase in Hollywood production, also plans to make three features annually in Great Britain, according to Darryl F. Zanuck, who said Fox may also produce pictures in other parts of the world where additional values can be garnered for a picture, photographically or geographically. At present it has before the cameras in Germany, "Legion Of The Damned," being photographed by Frank Planer, A.S.C.; "The Bird Of Paradise," shooting in Hawaii, photographed by Winton Hoch, A.S.C., and will start the cameras rolling on "Kangaroo" in Australia November 1st.

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(Continued from Page 380)

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ARTHUR E. GAVIN
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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

- LESTER WHITE, "Gasoline Alley," with Scotty Beckett, Jimmy Lydon, Jacki Immoor, Don Beddoe and Dick Wessel. Edward Bernds, director.
- CHARLES LAWTON, "Mask Of The Avenger," with John Derek, Jody Lawrence, Anthony Quinn, and Eugene Iglesias. Irving Pichel, director.
- BURNETT GUFFEY, "Two Of A Kind," with Lisbeth Scott, Rick Jason, Terry Moore and Alexander Knox. Henry Levin, director.
- LESTER WHITE, "Hurricane Island," with Jon Hall, Marie Windsor and Romo Vincent. Lew Landers, director.

Eagle-Lion

- ELMER DYER, "Korean Patrol," (Jack Schwarz Prod.) with Richard Emory, Benson Fong, Terri Duna and Al Eben. Max Nosseck, director.
- ELMER DYER, "Cattle Queen," with Maria Hart, Drake Smith, Douglas Wood, Edward Clark, Robert Gardette and Wm. Fawcett. Robert Tansey, director.

Independent

- ERNEST LASZLO, "The Well" (Harry M. Popkin Prod.), with Richard Rober, Barry Kelley, Christine Larsen, Henry Morgan. Leo C. Popkin and Russell Rouse, directors.

Lippert

- ERNEST MILLER, "Bandit Queen," with Barbara Britton, Willard Parker, Phil Reed, Barton McLane and Anna Demetrio. William Berke, director.
- JACK GREENHALGH, "The Dalton's Last Raid," with Preston Foster, Jim Davis, Jim Spalding, Monte Blue and Virginia Gray. Sam Newfield, director.

M-G-M

- ROBERT SURTEES and WILLIAM SKALL, "Quo Vadis," (Shooting In Italy) with Robert Taylor, Deborah Kerr. Mervyn LeRoy, director.
- HAL ROSSON, "Red Badge of Courage," with Audie Murphy, Bill Mauldin, Royal Dano, Douglas Dick, and Arthur Hunnicutt. John Huston, director.
- JOSEPH RUTTENBERG, "The Great Caruso," with Mario Lanza, Ann Blyth, Dorothy Kirsten, Jarmila Novotna, Blanche Thebom, Teresa Celli, Ludwig Donath, Carl Benton Reid and Nestor Paiva. Richard Thorpe director.
- RAY JUNE, "Inside Straight," with David Brian, Arlene Dahl, Barry Sullivan, Mercedes McCambridge, Paula Raymond, Lon Chaney and Monica Lewis. Gerald Mayer, director.
- PAUL C. VOGEL, "Go For Broke," with Van Johnson, Warner Anderson and Richard Anderson. Robert Pirosh, director.
- JOHN ALTON, "Father's Little Dividend," with Spencer Tracy, Joan Bennett, Elizabeth Taylor, Don Taylor, Billie Burke and Moroni Olsen. Vincent Minelli, director.
- ALFRED GILKS, "Excuse My Dust" (Technicolor), with Red Skelton, Sally Forrest,

MacDonald Carey, William Demarest and Monica Lewis.

Monogram

- GIL WARRENTON, "Blue Blood," with Bill Williams, Jane Nigh and Audrey Long. Lew Landers, director.
- HARRY NEUMANN, "Cavalry Scout," with Rod Cameron, Audrey Long. Lesley Selander, director.
- KARL STRUSS, "Father's Wild Game," with Raymond Walburn, Gary Gray, Barbara Brown, M'liss McClure, and Fred Libby. Herbert I. Leeds, director.
- GILBERT WARRENTON, "Colorado Ambush," with Johnny Mack Brown and Lois Hall. Lewis Collins, director.
- WILLIAM SICKNER, "Trail Dust," with Lola Albright, Roland Winters and Alan Hale, Jr. Frank McDonald, director.

Paramount

- RAY RENNAHAN, "Warpath," (Technicolor) (Nat Holt Prod.) with Edmond O'Brien, Dean Jagger, Forrest Tucker and Harry Carey, Jr. Byron Haskin, director.
- VICTOR MILNER, "Carrie," with Laurence Oliver, Jennifer Jones, Eddie Albert, Ruth Warrick, Basil Ruysdael and Mary Murphy. William Wyler, director.
- LOYAL GRIGGS, "The Last Outpost" (Pine-Thomas) (Technicolor), with Ronald Reagan, Rhonda Fleming, Bruce Bennett, Bill Williams, Noah Berry, Jr., and Peter Hanson. Lewis Foster, director.

R.K.O.

- GEORGE DISKANT, "The Gaunt Woman," with Dana Andrews, Claude Rains, Carla Balenda, Philip Dorn and Eric Feldary. Alfred Werker, director.
- HARRY WILD, "Macao," with Robert Mitchum, Jane Russell, William Bendix, and Thomas Gomez. Josef von Sternberg, director.
- NICHOLAS MUSURACA, "Roadblock," with Charles McGraw, Joan Dixon, Louis Heydt, Lowell Gilmore and Janet Scott. Harold Daniels, director.
- KARL STRUSS, "Tarzan's Peril" (Sol Lesser Prod.), with Lex Barker, George Macready, Glenn Anders, Douglas Fowley and Dorothy Dandridge. Byron Haskin, director.

20th Century Fox

- LUCIEN BALLARD, "House On Telegraph Hill," with Valentina Cortesa, William Lundigan, Richard Basehart and Fay Bainter. Robert Wise, director.
- JOSEPH LASHELLE, "The Scarlet Pen," with Linda Darnell, Charles Boyer, Francoise Rosay, Constance Smith, Michael Rennie and Judith Evelyn. Otto Preminger, director.
- JACK GREENHALGH, "The Sword of Monte Cristo," (E. L. Alperson Prod.) (Technicolor) with George Montgomery, Paula Corday, Barry Kroger, Lillian Bronson and Acquanetta. Maurice Geraghty, director.
- 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.

• LEO TOVER, "Follow The Sun," with Glenn Ford, Anne Baxter, Dennis O'Keefe, and June Havoc. Sidney Lanfield, director.

• MILTON KRASNER, "I Can Get It For You Wholesale," with Dan Dailey, Susan Hayward, Dennis King, Steve Geray and Vicki Cummings. Michael Gordon, director.

• HARRY JACKSON, "Take Care Of My Little Girl" (Technicolor), with Jeanne Crain, Jean Peters, Dale Robertson, Mitzi Gaynor, Helen Westcott, Betty Lynn and Jeffrey Hunter. Jean Negulesco, director.

United Artists

• GUY ROE, "Queen For A Day," (Robert Stillman Prodn.) with Phyllis Avery, Darren McGavin, Rudy Lee, Adam William, Tracy Roberts. Arthur Lubin, director.

Universal-International

• WILLIAM DANIELS, "Lights Out," with Arthur Kennedy, Peggy Dow, James Edwards, and Rock Hudson. Mark Robson, director.

• MAURY GERTSMAN, "Prisoner Of War," with Mark Stevens, Robert Douglas, Alex Nicol, Gig Young and Johnny Sands. George Sherman, director.

• CARL GUTHRIE, "Bedtime For Bonzo," with Ronald Reagan, Diana Lynn, Walter Slezak, Herbert Heyes, and Lucille Barkley. Frederick de Cordova, director.

• IRVING GLASSBERG, "The Prince Who Was A Thief," (Technicolor) with Tony Curtis, Piper Laurie, Jeff Cory and Peggine Castle. Rude Maté, director.

• RUSSELL METTY, "Up Front," with David Wayne, Tom Ewell, Jeffrey Lynn, Richard Egan, Darren Dublin and Butch Cavell. Alexander Hall, director.

• GEORGE ROBINSON, "Abbott & Costello Meet The Invisible Man," with Bud Abbott, Lou Costello, Nancy Guild, Adele Jergens, Arthur Franz, Wm. Frawley and Gavin Muir. Charles Lamont, director.

• 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. Carol Naish, George Tobias, Antonio Moreno and Bridget Carr. Hugo Fregonese, director.

Warner Brothers

• HARRY STRADLING, "Streetcar Named Desire," (Chas. K. Feldman Group Prod.) with Vivien Leigh, Marlon Brando, Kim Hunter. lia Kazan, director.

• ERNEST HALLER, "Jim Thorpe, All-American," with Burt Lancaster, Charles Bickford, Phyllis Thaxter, Steve Cochran. Michael Curtiz, director.

• WILFRID CLINE, "Lullaby Of Broadway," with Doris Day, Gene Nelson, Billy de Wolfe, S. Z. Sakall and Ann Triola. David Butler, director.

• TED McCORD, "Goodbye My Fancy," with Joan Crawford, Frank Lovejoy, Eve Arden, and Virginia Gibson. Vincent Sherman, director.

• SID HICKOX, "The Travelers," with Kirk Douglas, Virginia Mayo and Walter Brennan, Raoul Walsh, director.



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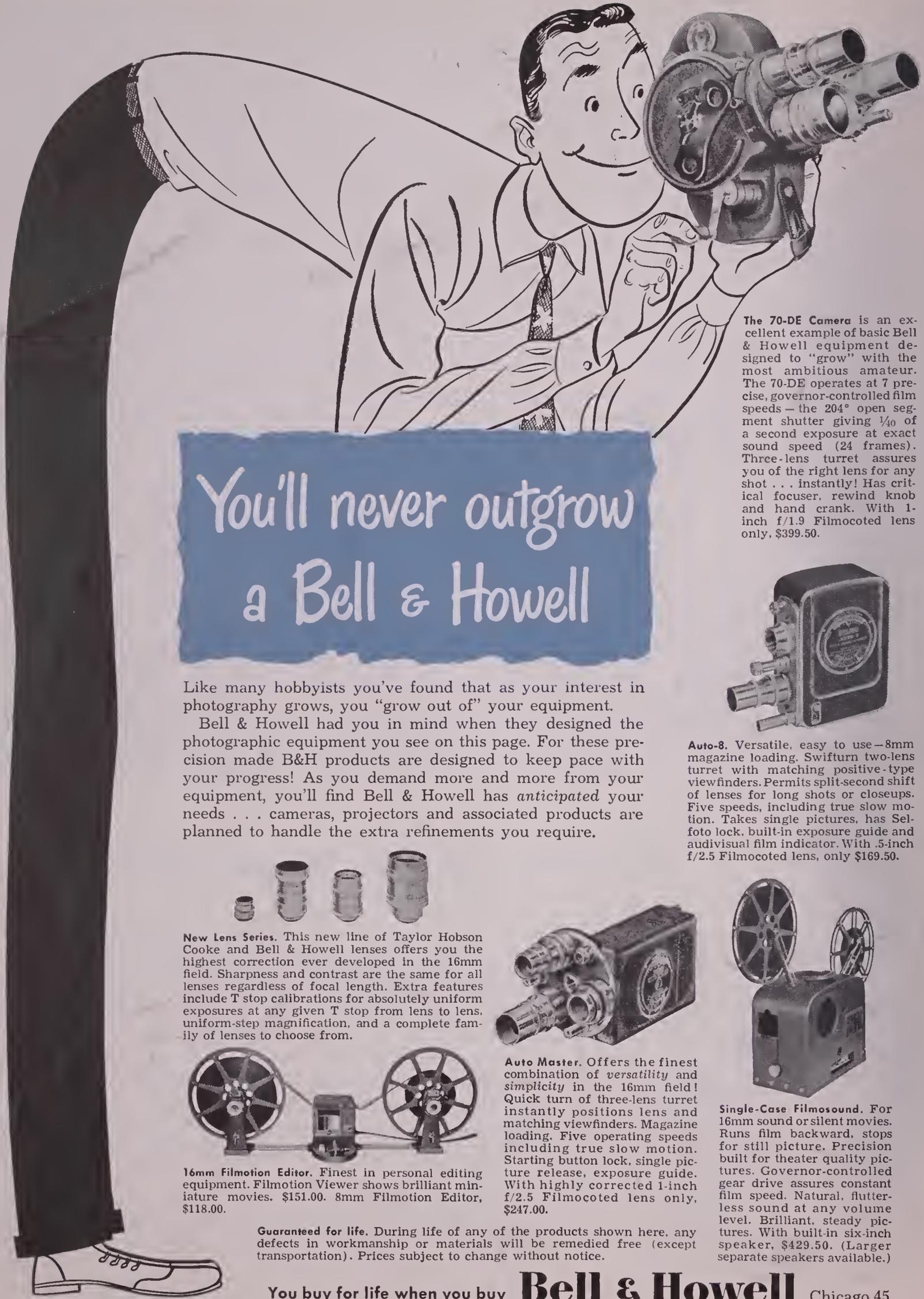
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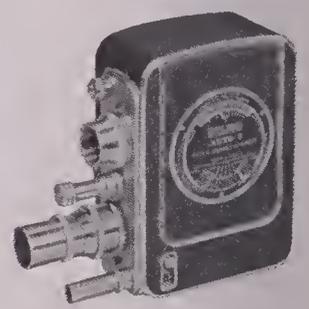
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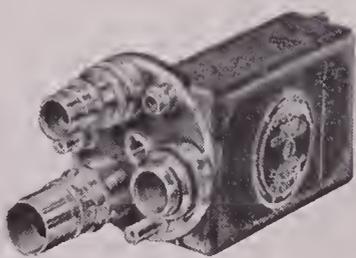


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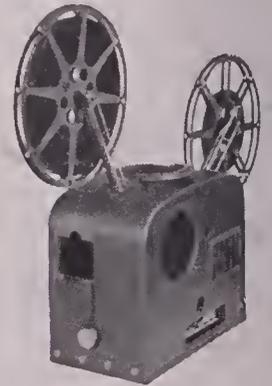
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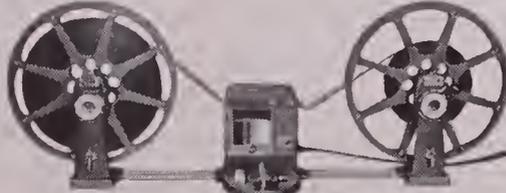
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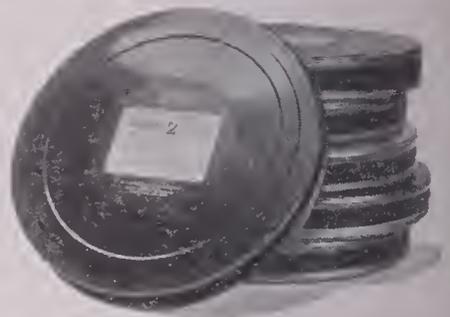
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- **The Significant Keylight**
- **Photographing The Sports Film**
- **What Makes A Short Subject Click?**
- **Major Studios Test New Technicolor System**

**DECEMBER
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Cinematographer

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ON THE COVER

DEEP IN A RUGGED, granite-walled canyon of New Mexico, director of photography Charles Lang, A.S.C., employs Hollywood's largest camera boom in photographing unusual action scenes for Paramount's "Quantrell's Raiders" — one of the very few times a camera boom has been used in such a remote location.— *Photo by Mal Bulloch.*

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 1950 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.



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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Hollywood Bulletin Board



Joe MacDonald, A.S.C. — cited for September "Picture Of The Month."

Winner of the A.S.C. Picture Of The Month award for September is Joe MacDonald, A.S.C., for his photography of 20th Century-Fox's "Panic In The Streets." Award is the ninth issued so far this year by the Society to directors of photography in the Hollywood motion picture industry and the first of such awards to be received by MacDonald.

MacDonald has been one of Fox's top directors of photography for a number of years with an impressive record of outstanding cinematography, including such pictures as "Pinky," "Down To The Sea In Ships," "Yellow Sky," "Call Northside 777," and "Sunday Dinner For A Soldier."

He is presently filming "U.S.S. Teakettle" for Fox, which stars Gary Cooper.

The 1950 Academy Awards presentations—the 23rd such event—will take place at the RKO Pantages theatre in Hollywood the evening of next March 22. Nominations and balloting will get underway shortly after first of the year.

James Wong Howe, A.S.C., currently directing the photography on "He Ran All The Way" for Roberts Productions, will contribute a chapter on the technique of lighting in cinematography for the industry publication, "Lights, Camera, Action . . . the How and Why of Motion Pictures," to be edited by Muriel

de Lisa. The book, being issued under joint sponsorship of the Academy of Motion Picture Arts and Sciences and University of California at Los Angeles, will be published in the spring.

Although American-made films and American motion picture artists and technicians garnered most of the awards in the recently conducted 1950 National Poll of the *Film Daily*, its award for best cinematography went to Robert Krasker who photographed "The Third Man," a European production.

Clyde De Vinna, A.S.C., veteran Hollywood cinematographer, undertook a spectacular filming assignment recently to get unique camera angles from the air for Universal-International's "Air Cadet."

To shoot the famed F-80 Shooting Stars in action more than 10,000 feet above ground, DeVinna arranged to have the tail assembly of a B-25 bomber redesigned to leave an opening in which the camera could be bracketed virtually hanging over the edge.

Above ground, flying just over a group of fighters, De Vinna lay flat on his stomach securely anchored to the plane with a rope around one foot. Leaning thus over edge of the plane, he spent over seven hours in the air and shot 2,000 feet of film.

Phil Tannura, A.S.C., last month followed the barnstorming "Harlem Globe Trotters"—sensational all-colored basketball team—around the country, training his camera on their contests for scenes for a forthcoming Columbia Pictures' production by the same name.

Captain Don Norwood, U.S.N., retired, inventor of the Norwood Director exposure meter and author of several technical articles on the problems of color temperature and exposure in photography, has been made an Associate Member of the American Society of Cinematographers. His latest article, "The Significant Keylight," appears in this issue.

S.M.P.T.E.'s Spring-1951 convention will take place at the Hotel Statler, New York, from April 30 to May 4. Under consideration is the Society's plan to hold a single annual national convention instead of the two conducted annually as at present. Action on this proposal is one

of the first to be tackled by newly-elected president, Peter Mole, when he takes office in January.

Three U. S. Army Signal Corps photographers have been decorated for heroic conduct in picturing the Korean conflict. First Lt. Robert L. Strickland, Atlanta, Georgia, was awarded the Silver Star for "outstanding bravery and leadership while photographing the assault of X Corps troops for the objective of Seoul." His military and technical ability were significant factors in the production of over 14,000 feet of outstanding military motion pictures, according to the citation.

Sgt. 1st Cl. Martin W. Barnes, Oshkosh, Wisconsin, and Cpl. Ronald L. Hancock, Jacksonville, Florida, were awarded the Bronze Star Medal for "heroic achievement." At Inchon, Cpl. Hancock had his camera blown apart in his hands.

Cinecolor's Burbank laboratory, now working two shifts, will go to three shifts beginning January 1st. Stepped-up operations are planned to meet demand of mounting orders for both Cinecolor and the company's newer Supercinecolor process. Company's present backlog reportedly is triple the volume of business in the company's best year.

Sidney Solow, A.S.C., will chairman the Academy of Motion Picture Arts And Sciences' special committee on documentary awards for the forthcoming 23rd Academy Awards presentation in March.

Film editors of Hollywood motion picture studios are to have a social and fraternal organization. Idea was launched formally at a recent luncheon chaired by Jack Ogilvie and Warren Low. Tentative program includes setting up an annual awards program and banquet.

Norbert Brodine, A.S.C., has been signed by Twentieth Century-Fox to photograph "The Frogmen," which will start rolling soon with an all-male cast. For a considerable part of the two-month shooting schedule the film company will be at sea, operating under warlike conditions and abiding by Navy regulations.

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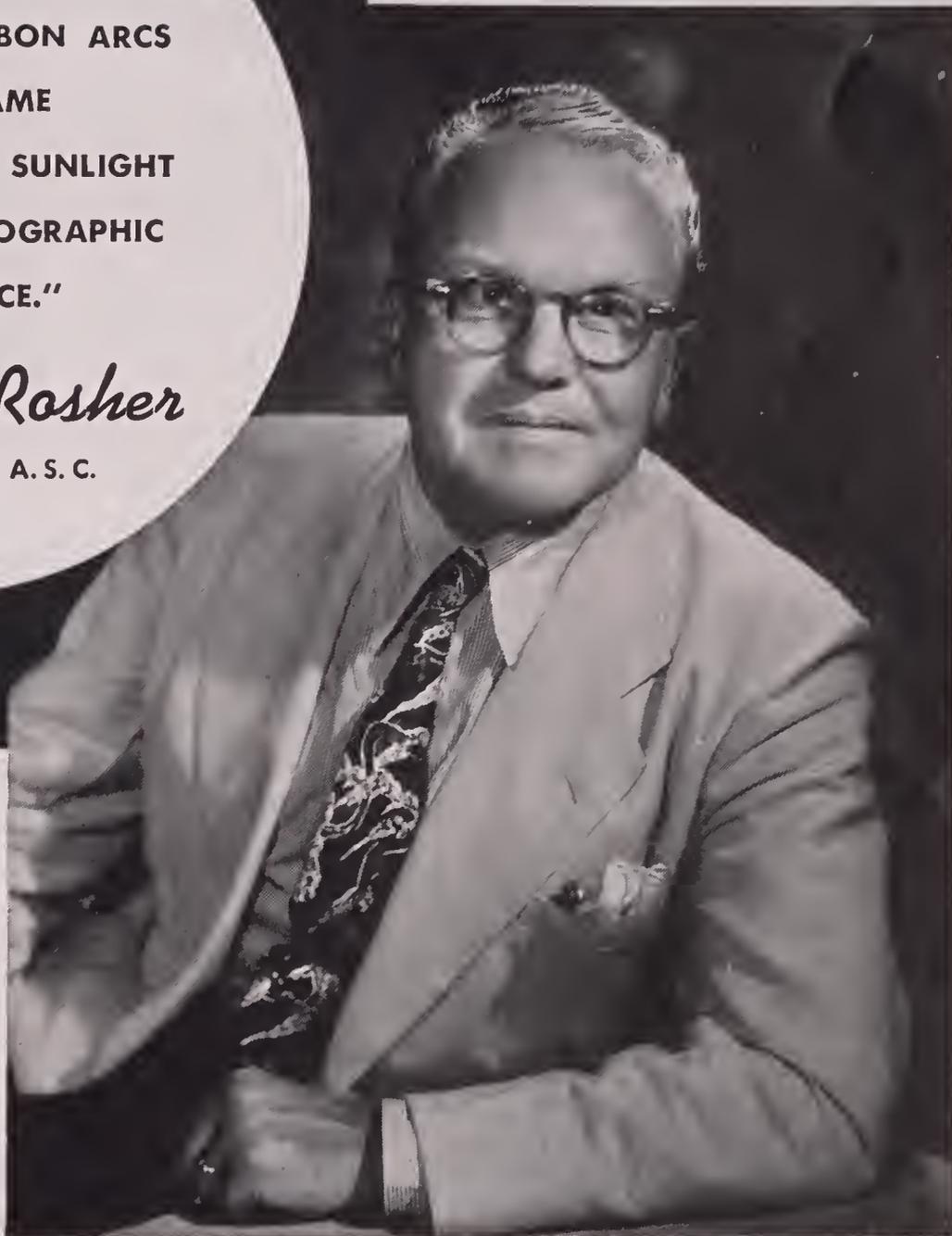
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FIRST IMPORTANT photographic tests made of the new Technicolor system were filmed at M.G.M. by Charles Rosher, A.S.C. (left), under direction of George Sidney (right), using keylight of 150 foot candles.

New Technicolor System Tested By Directors Of Photography

New color filming system put to rigid tests in five major Hollywood studios. Gains in economy and photographic quality seen.

By LEIGH ALLEN

FOLLOWING the general announcement by Technicolor Motion Picture Corporation of its new low light level photographic system, a demonstration of some of the tests photographed by five Hollywood studios with the new system was given before members of the American Society of Cinematographers on November 6th. The test footage screened was photographed by director of photography Charles Rosher, A.S.C., at Metro-Goldwyn-Mayer studios; by Arthur Arling, A.S.C., director of photography at 20th Century-Fox studios; and by Charles Boyle, A.S.C., director of photography at Universal-International studios. The tests photographed at Warner Brothers and at Paramount studios were unavailable for screening at this meeting.

Initial photographic research on the system began at MGM, under the direction of John Arnold, A.S.C. One of the largest single users of Technicolor, this studio considered it to their interest to explore the possibilities of materially reducing photographing costs when filming in color, a substantial item of which involves the lighting and set operation time required to place the great number of lighting units normally used. The "old" method of Technicolor photography demanded a working illumination of around 400 to 500 foot candles.

The objective was to find a means for shooting Technicolor, using if possible no more light than is generally used for black and white pictures. To accomplish this would mean that MGM, and other studios, would be able to produce more pictures in Technicolor without materially adding to production costs. The main objective at the beginning, accord-

ing to Arnold, was to develop a system that would enable studios to photograph Technicolor interiors entirely with low-level, unfiltered incandescent light instead of arc light.

This led first to a revision by Technicolor in the emulsion characteristics of the film used in the camera, a step which led naturally to the next—an important technical change in the optical system of Technicolor cameras. The final major step involved changes and improvements in the Technicolor film processing procedure. Thus, the whole new process involves and depends upon a chain of improvements, each dependent upon the other.

For the director of photography, the new Technicolor system involves no important change in procedure other than the use of incandescent instead of arc light, as at present. Most of those present during screening of the test films expressed the view that the new Technicolor system rendered a more pleasing overall tone, less harsh than the current Technicolor system.

The tests photographed by Rosher consisted of three sequences of scenes staged and directed by George Sidney, and utilized three different sets. The first was a bedroom scene in which a girl enters, bids her escort goodbye at the door, then retires, turning out the room lights so that the only illumination is that filtering through the windows from out of doors. The keylight for this set was 100 foot candles. With regular Technicolor it would have been 400 foot candles. When the room lights were extinguished, the keylight dropped to 30 foot candles in the closeup of the girl. At all times the illumination is adequate, well distributed, and obviously carries to the depths required by the set.

The second set was a low-key church interior. The girl is kneeling before the altar and facing the camera. Camera

alternates between closeup and medium shot. Keylight for this sequence was 75 foot candles. A marked pictorial effect was that of the vari-colored light from the stained glass windows falling on floor of the church behind the girl.

The third set was a full day exterior of a garden with the girl singing—first in closeup, then in medium and long shots as she alternated between dancing then sitting on the garden wall. Keylight for these shots was 100 foot candles with cross lights of 125 foot candles.

According to Rosher, he began these tests on a purely experimental basis; he

(Continued on Page 424)



"OUR INITIAL tests," said Fox's director of photography Arthur Arling, A.S.C. (behind camera), "prove a need at this time for a good 1000-watt CP lamp for set illumination for the new system."



FIG. 1 — Every photographic subject is illuminated by a keylight. In this case it is the sun.



FIG. 2 — The "Keylite" meter is generally used at subject position and aimed directly at the keylight source — whether sunlight or artificial light.

POSSIBLY ONE reason for the superior quality of Hollywood cinematography lies in the fact that a very systematic method is used in the analysis of each scene and the organization of the illumination elements.

The illumination on a scene is usually considered as consisting of certain fundamental elements, each of which has a definite function to perform. The first and most important of these elements is the *keylight*.

Every photographic subject is illuminated by a keylight. *The keylight may be reasonably defined as being the most intense light that is effective on a substantial portion of the camera-side of a subject.* Outdoors the keylight is usually the sun. Indoors it may be one lamp, or a group of closely assembled lamps, which projects comparatively intense light onto the subject.

The relative location of the keylight has a very marked effect on the appearance of the subject. This location determines where on the subject the highlights will be located, and where the shadows will lie. (See Figure 1, for illustration of effect of keylight on subject.)

By means of an appropriate location of the keylight the features of a subject may be brought out to best advantage, three dimensional appearance may be enhanced, depth effects may be established, and desirable artistic results may be achieved.

The intensity of keylight projected to subject's position usually determines the illumination level for the scene. Other

(Continued on Page 439)

The Significant Keylight

Further explorations in science of light measurement has resulted in development of new light meter well suited to needs of particular still and motion picture photographers.

By CAPTAIN DON NORWOOD

Inventor of the Norwood "Director" Exposure Meter.

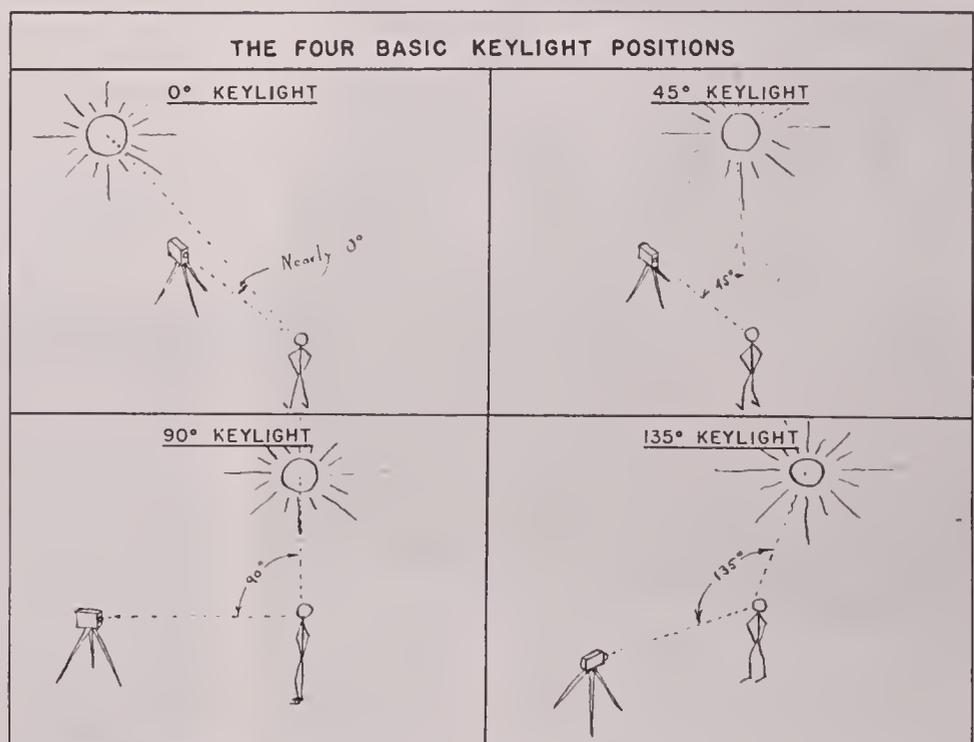


FIG. 3 — Any keylight can be classified as belonging in one of the four location groups shown above. Here sunlight is the most intense light falling on subject.

Sound And The Cinematographer

The cameraman who understands sound recording techniques can be especially helpful to the small film producer.

By CHARLES L. ANDERSON

THERE ARE ALMOST as many different kinds of commercial film companies as there are organizations making commercial pictures. They range from large corporations with facilities equal to Hollywood studios down to one man film units. While the cinematographer's role is important to these producers, he carries an even larger share of responsibility when his company is a small one for then he is expected to know every facet of film production technique because the company usually cannot afford the staff of specialists to work with him he might find in the larger studios.

Therefore, the cameraman who understands sound techniques can be especially helpful to the small film producer. The mechanical and electronic aspects of sound are familiar to many, for they can be learned from the manufacturers' publications and from reports of new developments in the technical journals. But the artistic aspects of sound are vital to production, too. This article then, will serve as an introduction to them.

The sound used in motion pictures falls into four divisions: Narration, sync sound, music, and sound effects. Each plays a part in telling any story on film, and each has its special uses and liabilities the film-maker should be aware of.

The sound tracks of most commercial films usually features more narration than synchronized dialogue, music or sound effects. The narrator gives information not included in the scenes themselves and imparts non-visual facts. Narration is less costly than dialogue scenes because no sound need be recorded at the time of shooting. It can all be spoken by one man at one time after the film has been edited.

The aim of commercial and documentary films is to get their message to the public in the shortest possible running time. Narration is ideal for this purpose because so much can be covered in a straight "telling of facts." Synchronized dialogue, on the other hand, is more time-consuming; people take more time to make a point when talking with one another. But sync sound *does* have its uses, as we'll see later.

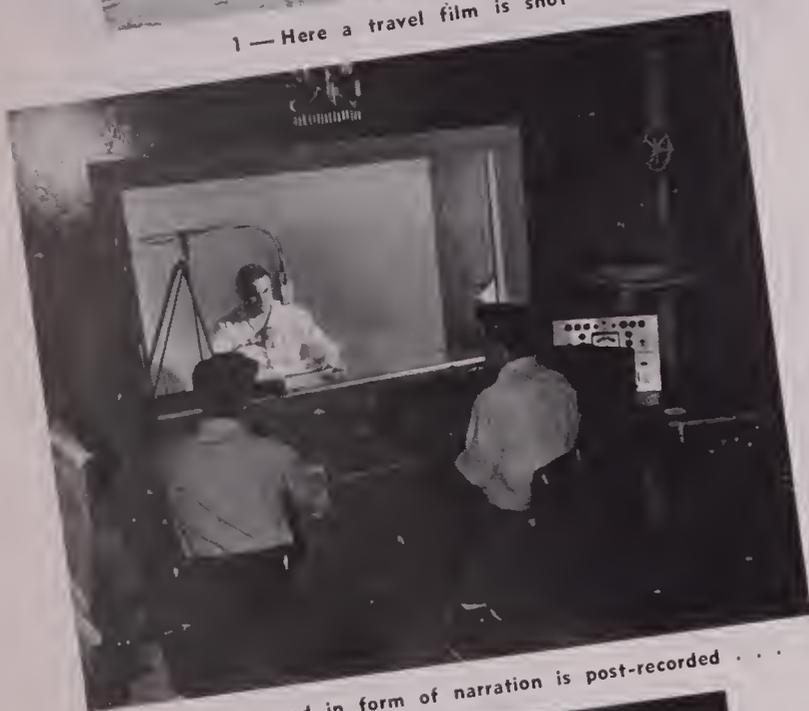
If the narration is carefully written *before* filming, time and film stock can be saved. Competent directors then know what scenes to shoot to fit right into the script without much loss in editing. And, what is probably more important, they don't finish a picture with scenes missing that are needed to illustrate the final narration. A narration that has been written by a man who understands the visual requirements of films can therefore serve as an excellent guide in filming.

Camermen who are also their own directors can simplify production by matching shots to a narration script. But timing

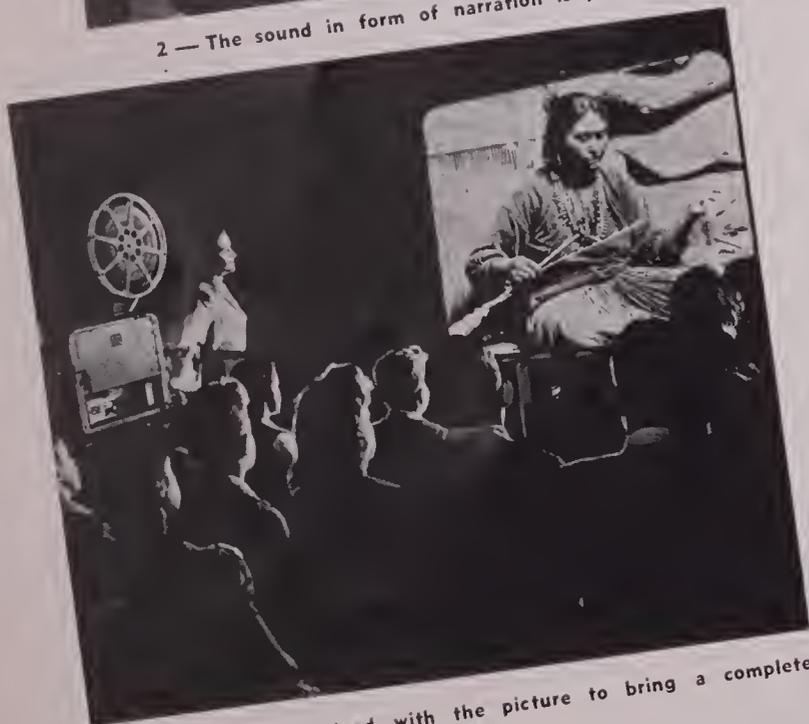
(Continued on Page 430)



1 — Here a travel film is shot "wild" . . .



2 — The sound in form of narration is post-recorded . . .



3 — And then combined with the picture to bring a complete sound production to the screen.



HOSPITAL — Billy Burke does much of his surgical filming at the Los Angeles County Hospital where he keeps a full complement of cameras and equipment. Special tripod affords working without hindering surgeon.



STUDIO — Not all of Burke's filming is done in hospitals. Here is the Burke studio furnished as an operating room. Minor surgeries are performed and photographed here. All filming is done in 16mm. Kodachrome.

Surgical Cinematography

Billy Burke has specialized in this field for 25 years, has photographed over 1050 medical and surgical motion pictures.

By FRED C. ELLS

AIDING IN THE tremendous strides being made in surgery and medicine today is the 16mm. motion picture camera. Films in color of actual surgical operations are used not only to teach medical students but to inform and instruct surgeons in newly developed surgical techniques. The production of such films is a comparatively limited field. That is, it is not the type of production usually undertaken by the average commercial film producer. There are many reasons for this. First, photographing a

surgical operation is an exacting science which few cameramen have taken the pains to develop. Also, there are many responsibilities attached to bringing into and using in a hospital operating room a motion picture camera and the necessary lighting equipment and apparatus.

One of the most outstanding surgical cinematographers in the field today, perhaps, is Billy Burke of Los Angeles who began his career quite by chance in 1925. He was a freelance newsreel cameraman then and attempted his first surgical film

as a favor to a friend. Since then he has photographed more than 1,050 surgical and medical films in 16mm. Perhaps the most dramatic and exacting of all these is the film *Coarctation of the Aorta* which he recently completed for a Los Angeles surgeon. He is presently producing a 16mm. color film on the startling and comparatively recent medical discovery of the use of curare — this for a nationally known pharmaceutical house.

(Continued on Page 434)

DETAIL SHOTS — Surgeon for whom a picture is being made invariably sits in on special filming sessions when critical closeups are photographed for orientation sequences. Segmented skulls are regular Burke props.



INSERTS — Here, Burke—aided by a surgeon and a pathologist—is photographing an insert for a medical film. Pathologist points out details on slide in projector. Camera photographs projection (not shown).



New Camera And Tripod Carrier Developed At MGM

No longer necessary to remove camera from tripod when moving to new setup.

By FREDERICK FOSTER

A NEW CINEMATOGRAPHIC accessory developed by the Metro-Goldwyn-Mayer camera department now makes it possible to quickly move a tripod-mounted un-blipped Technicolor camera without removing camera from the tripod and re-mounting it later. Designed by John Arnold, A.S.C., executive director of photography at MGM, the gadget is called the "Tripod Easi-Lift."

As its name implies, its basic function is to ease the task of lifting camera and tripod between setups, when either a black and white or Technicolor camera is mounted on the conventional tripod. This it does by rigidly securing the tripod legs in their set "spread" or position, and affording means for three grips or camera assistants to lift the whole unit by hand.

Heretofore, moving a camera—especially a heavy Technicolor camera—from one setup position to another on location has been a time-consuming chore and waste of production time and money—this, of course, where the camera is used on the conventional tripod. Indoors, of course, and on some locations, the camera—when enclosed in a blimp—is usually erected on one of the mobile type camera mounts.

Another feature of the Tripod Easi-Lift is that it permits using a camera on more rugged terrain and in what heretofore was considered inaccessible locations. Where a choice setup calls for using the tripod on a slope, one leg can be extended for the lower elevation and secured in this position with com-



FIG. 1—The Tripod Easi-Lift in action. Charles Rosher, A.S.C (right) directs his camera crew in moving the unblipped Technicolor camera to a new setup on location for MGM's "Showboat."

plete safety, with no danger of the tripod toppling over. (See Fig. 3.)

Normally, a cameraman might hesitate to move the camera fifteen or twenty feet for a new setup on a rugged exterior location, to gain advantage of improved composition or camera angle, because of the time and trouble involved (in removing and remounting the camera). With the Tripod Easi-Lift employed, such a move is a simple procedure. Three grips lift

(Continued on Page 424)



FIG. 2—Clamp sections slip over tripod legs and are locked in place. Sturdy welded handle permits easy lifting by camera assistant.



FIG. 3—Where tripod is to be used on hilly terrain, one leg may be extended for the lower elevation and locked securely in place.



FIG. 4—The Easi-Lift may be left attached to tripod and folded for storage or easy carrying when not in use.

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GRAY-O'REILLY STUDIOS of New York, shooting a scene for a magazine promotional film on homemaking, where once again the Maurer 16 demonstrates its adaptability to every kind of performance condition.

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Photographing The Sports Film

Timely tips for the amateur aiming to specialize in sports cinematography.

By CHARLES LORING



FOR REAL ACTION shots the professional uses the amateur's technique: getting right in close with a hand-held camera on specially staged scenes. Scene above is from Columbia's "The Hero."

SPORTS CINEMATOGRAPHY requires a special technique and is more difficult to do well than it might seem. A basic requirement of the cameraman, along with the ability to handle a camera well, is an alertness which invariably spells the difference between capturing an action on film or missing it. The cameraman who is a novice at filming sports often finds his initial experiences fairly frustrating. He is always reloading the camera when the spectacular action is taking place; on his way to a different vantage point just as the winning touchdown is scored; or perhaps pausing to wave to a friend when the winning home run is batted in. A bit of time and practice in filming sports will eliminate the possibility of most of these catastrophes happening to you and you will no longer have to talk about the "shot that got away." In fact, you will ultimately develop a kind of "sixth sense" that will enable you to anticipate important action and successfully capture it with your camera.

Sports films fall mainly into three categories: first, there is the record type film, which as the name implies is made as a complete record of an event. An example are the films which most universities record of their varsity football games. These record films provide important study for coach and players. The newsreel companies film all the plays of important grid games in order to provide ample action footage from which may be edited the high-lights of the game for the screen.

The second type of sports film is the entertainment, atmospheric, or just-for-the-fun-of-it film which is made either to capture some of the interesting action of a game or to provide an atmospheric background for another story situation.

The third type is that in which action is staged especially for the camera. This applies not so much to competitive sports as it does to such activities as swimming, diving, skiing, etc. In this type of film, the cameraman has a distinct advantage because he is able to control the situation and see that it is played to the camera.

The record type of sports film is a pretty costly undertaking, not only because a great amount of film is required to record all the game, but because it is almost impossible to shoot all of the action with only one camera. To do a game full justice for record purposes, it is almost a necessity to have two or more cameras shooting simultaneously or alternately with different focal length lenses. Obviously, such a setup is feasible only when there is a sizable budget available, and this is a fact which should be realized by the semi-professional who contracts to do such work for a client.

The entertainment film is far less complicated, mechanically speaking, but it still requires a good deal of pre-planning. The cameraman should know in advance the highlights of the game he wants to shoot, and should pay close attention to the action so that he can maneuver himself into a favorable shooting position as the key action develops. The third type, or staged sports film, requires that proper advance arrangements be

(Continued on Page 433)

MOBILITY is essential in filming sports events. A lightweight tripod makes toting camera easy, serves as a unipod, too.

HIGH AND LOW angles lend dramatic emphasis to shots of divers. Here, also, variable camera speeds can produce trick and slow motion shots.

GOLF EXPERTS agree on value of movies as means of correcting player's golfing form. Such movies are simple to make, offer opportunities for amateurs.





MOST IMPORTANT factor in a short is the basic idea or story, which must be simple, easily understood, not complicated as to plot. Once outlined on paper, shooting becomes comparatively simple.

MOVIE AMATEURS will find greatest opportunities for production of short subjects in scenic and travel subjects. Merit of such material rests in its timeliness or novelty.



What Makes A Short Subject Click ?

Well-written script, tight editing important as good photography.

By JOHN FORBES

SOME OF THE MOST successful short subjects seen on theatre screens were filmed with a 16mm. camera—some of them amateur. One example is the currently popular Walt Disney Technicolor short, "Beaver Valley," originally photographed in 16mm. Kodachrome. A few years ago, Warner Brothers received an Academy Award for a short subject embracing a trip down the Colorado River in a rowboat, which was filmed by a non-professional in 16mm. Kodachrome. And Metro-Goldwyn-Mayer's outstanding short subject, "Miracle In A Cornfield," depicting the birth and growth of the famous Mexican volcano Paricutin, was photographed for the most part in 16mm. Kodachrome by an amateur movie maker.

Serious 16mm. ciné photographers are cashing in on rare and unusual footage not altogether because of the timeliness or interest of the subject matter, but because they have acquired the knack of filming such material along the formula lines long established by the professionals—no doubt a result of careful

study of the professional format on theatre screens.

Close observation of short subject films should be illuminating to every amateur movie maker who aims to have his film creations approximate the professional rating of entertainment content.

The theatrical "short" is normally one-reel or two-reels in length. It is entertainment in capsule form; highly concentrated screen fare. Unlike feature productions, costs of making are definitely limited; there is a top figure beyond which the average cost must not go if it is to show a profit. Budgets are rigid in every phase of production.

This economy is not unlike the amateur's desire to keep his filming within reasonable boundaries and to get as much on the screen as he can without spending a lot of money.

Some short subjects are very short indeed; others stretch out in screen time. A one-reel professional short subject will have a screening time of from six to eleven minutes. A two-reeler will run from seventeen to twenty-two minutes.

This at sound speed of ninety feet per minute, or twenty-four frames per second. The ideal length for a one-reel subject is seven hundred and twenty feet—eight minutes screen time. This corresponds to two hundred and ninety feet in 16mm. and one hundred and forty-five feet in 8mm. Fifty feet is given to the main and credit titles, and twelve to fifteen feet to the "end" title—all of which should be deducted from the total length figures to arrive at the net picture footage.

The one-reel subject of average length will consist of from forty to fifty different camera setups; in other words, that many scenes. It will have fifty to seventy-five cuts, as closeups are intercut with longer shots. These same figures can well apply to the average amateur short subjects production.

The most important factor in a short is the basic idea or story. In the professional field, requirements are rigid. The story must be simple, easily understood, not complicated as to plot, and progress

(Continued on Page 428)



THE NEW SIXTOMAT photoelectric exposure meter features a sliding chrome roller top, automatically calculates the correct f/ stop for every shutter speed.

Sixtomat--New, Automatic Exposure Meter

PRESENTING several features entirely new in the photo-electric exposure meter field is the recently introduced German-made Sixtomat exposure meter. Sporting a completely new design, as meters go in the U.S., the Sixtomat is housed in a stream-lined functional plastic and chrome case with a sliding chrome roller top, which completely eliminates the usual cumbersome carrying case.

Absent are the customary large, flat calculating discs profusely covered with numbers, letters, etc. Instead of the customary "shoestring" neck cord, the Sixtomat sports an attractive stainless steel chain with instant hook-on clip.

The roller blind shields from impact the cell and scale window. All sensitive parts are shielded by spring suspension. The meter, in just one, quick operation, gives a direct reading for any film under any light conditions.

On the right hand side of the meter is a film speed dial which has a V-notch indicator on its outside milled rim. By means of a small stud on the dial, the speed value (ASA) of the film used is set opposite the V-notch. Thus the meter is set for automatic operation, and thereafter it is simply a matter of opening the meter, pointing it at subject or scene, turning the knob at the side until the indicator matches position of the needle, and read the exposure value direct. It is particularly ideal for the cine cameraist for whom complicated adjustments with some meters has made exposure calculation a bugaboo of the hobby.

Essentially there are but four factors which determine the proper exposure of photographic film. Briefly stated, these consist of light intensity, film sensitivity, shutter speed and lens opening. The Sixtomat measures light intensity reflected from the subject or scene and instantly gives a choice of lens openings and shutter speeds for the still cameraist, or the exact lens opening for the cine camera operator.

The reading is automatically retained by the meter by an ingenious memory-perfect device.

The f/ stop scale of the meter ranges from f/1.4 to f/45; the shutter speeds from 1/1000 to 30 seconds for stills. For cine camera use, the scale ranges from 8 to 16, 32 and 64 frames per second. The meter's sensitivity range is from 0.1 to 4000 foot candles. An important feature is the built-in magnifying lens in the scale window for easier reading.

Measuring about 2 by 3 by one inches, this palm-sized rugged meter is destined to find wide favor among cameramen in all photographic fields. The maker, P. Gossen, is said to have produced over a million photo-electric exposure meters to date and is an outstanding manufacturer of electrical measuring instruments and precision equipment in Germany.

The Sixtomat is being imported and distributed in the United States by the Mitropa Corporation, New York City, and retails for about \$32.50.

Europe's Cine' Classic

Luxembourg this year acted as host to the Union Internationale du Cinema Amateur, organizing the 9th International Congress and 12th International Competition. The 64-page program circulated to delegates listed an impressive list of entries, with U.S. entries the smallest in number.

At conclusion of the contest, France and Spain headed the list of prize winners. The order of merit for film entries from different countries was as follows:

- | | |
|----------------|----------------|
| 1. France | 7. Italy |
| 2. Spain | 8. Germany |
| 3. Switzerland | 9. Denmark |
| 4. Holland | 10. Luxembourg |
| 5. Belgium | 11. Portugal |
| 6. Britain | 12. Sweden |

The last two were represented by only two films each; all the others by four.

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NEW TECHNICOLOR SYSTEM

(Continued from Page 414)

had no formula to follow other than the tentative instructions laid down by Technicolor plus his long experience with regular Technicolor photography. He proceeded on the basis that color temperature was all-important with the new system. "Color temperature must be correct in the light falling on faces," he said, "regardless how it is elsewhere on the set. If color temperature in other parts of the scene is slightly up or down, it is relatively inconsequential."

Implementing the incandescent lamps were spun glass diffusers and frosted gelatins. Arnold, in preliminary photographic tests with the new Technicolor system, had already established the fact that China silk diffusers often prove detrimental because of their tendency to bleach and burn, thus changing the color temperature of the light.

The sequences of tests photographed at Fox by Arthur Arling were made on three different sets. Arling's aim was to put the new system to test following customary production routine. Thus he chose scenes and setups approximating those normally used in regular Technicolor production.

The first set was a night interior of a living room in which a girl and young man meet. The camera ranges from closeup to medium shots. The keylight registered 125 foot candles. The action was repeated and photographed several times, each time with the illumination setup altered slightly but without changing the keylight level.

The second sequence of shots elicited considerable comment for their lighting artistry. The set was a full night interior of a bedroom with soft moonlight falling on a window at the rear. A girl on a couch, turns out the room light, arises and goes to the window where she opens the shutters, admitting moonlight. For this scene a keylight of 150 foot candles was used. This dropped to 100 foot candles when the room light was extinguished. An arc with four scrims was used back of the window for the moonlight effect in the closeup of the girl at the window; for the medium shot of the moonlight effect, a Senior was used with a Macbeth filter.

The third sequence was a full lit day interior of a living room with shots ranging from medium to closeup. Here again, the keylight was 150 foot candles.

"These initial tests," said Arling, "prove the great need at this time for a good 1000-watt CP incandescent globe. For the new Technicolor system, the present 2000-watt globes are too powerful, requiring diffusion to cut down illu-

mination intensity. With the thousand-watt lamp we could dispense with diffusers and get correct color temperature and light intensity at the same time."

"When we filter incandescent lamps for regular Technicolor," he added, "we lose sixty percent of the light. With the new system, using incandescent light, we gain back this lost sixty percent and have the advantage of the full hundred percent of the lamp's potential illumination. Where arcs are used with the new Technicolor system, which requires use of filters, resultant light loss from filtering is around 30 percent—an amount easily expendable."

The test sequences photographed by Charles Boyle at Universal-International consisted of wardrobe and makeup tests for the Technicolor production, "Don Renegade." The takes ranged from closeups to medium shots, with an occasional two-shot, and were filmed with a keylight of 150 foot candles. All illumination on the sets was by 2000- and 500-watt globes of 3450 K temperature. Spun glass and frosted gelatin diffusers were used. An incandescent broad was used with a silk diffuser.

Commenting upon the new Technicolor system, Boyle said: "It is the most important development in Technicolor's history. After shooting Technicolor for 13 years, I just couldn't believe that such results were possible until I tried it. Working with Technicolor with a keylight of only 150 foot candles, I just kept my fingers crossed until I saw the results. It means big things for color film production in general."

Lest it be interpreted from the above that arc lighting is doomed to oblivion, insofar as color photography is concerned, it should be stated here that in the opinion of most directors of photography the general scheme for set lighting will probably be as follows for the new Technicolor system:

- a—Small sets: practically all unfiltered incandescents.
- b—Medium sets: unfiltered incandescents with some filtered arcs.
- c—Large sets: unfiltered incandescents with a larger percentage of filtered arcs than used on medium sets.
- d—The use of arcs will vary with the cameraman as at present with black and white photography.

In recent weeks, considerable research has been done on developing a suitable gelatin filter for filtering arc light to incandescent color temperature. The initial filter developed for this purpose has been identified in the industry as the MT-1.

Tests indicate that this filter is equivalent to two No. 54's and one No. 62. It presently requires one Y-1 gelatin sheet added when used with the Duarc and two Y-1 sheets when used with the high intensity arcs. Fading tests performed with this filter by Technicolor are reported as satisfactory.

Development is continuing on a MT-2 filter which will be the equivalent to two No. 54's plus the density of two-thirds of a No. 62. Both the MT-1 and MT-2 filters reportedly have an absorption factor of 40%.

As to the general availability of the new Technicolor system, the corporation is said to be aiming for full conversion to the new process within four to six months. It can handle some small Hollywood production sequences immediately. Developments are underway so that some shooting under the new process may be done in England by the first of the year.

M.G.M. CAMERA AND TRIPOD CARRIER

(Continued from Page 418)

the tripod with camera and set it down in the new location in a matter of a minute or so.

Construction of the Tripod Easi-Lift is rugged but light, due to use of dural tubes and bars, also use of the same material in all clamps and fittings. The telescopic feature of the device allows the camera to be raised to any height afforded by the tripod. The clamps fit over each tripod leg and are securely locked in place by thumb screws. As shown in Fig. 2, handles welded to the clamp sections provide the means for lifting the tripod with camera by grips or camera assistants.

As shown in Fig. 4, the Easi-Lift may be left attached to the tripod and folded with it for storage or easy carrying, eliminating the objection to "just another gadget to carry around."

First to use the Tripod Easi-Lift was George Folsey, A.S.C., on location shooting for "Mr. Imperium." William Mellor, A.S.C., also used it on exteriors for "Across The Wide Missouri," and Charles Rosher, A.S.C., is using it on "Showboat." The consensus of MGM cameramen is that the gadget rates an Academy Technical Award. The studio, meanwhile is having all tripods equipped with the Easi-Lift as standard equipment.

END.

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- 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 pre-paid*. 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.

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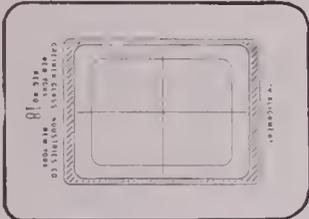
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Television Filming Activities

By LEIGH ALLEN

There is no longer any doubt as to the future of motion pictures in television. The public—not the television industry—has decided strongly in favor of filmed programs.

First to influence this decision was the poor quality of kinescoped shows; second was the more entertaining qualities of programs consisting of televised motion pictures. The fact that in many instances the films were "oldies" seemed to have made no difference. The public wanted entertainment, but above all quality—in its TV programs.

So we find more and more video programs switching to films as the medium by which shows are fed to video viewers. This important trend has been a boon to professional cinematographers. Today, more than a score of Hollywood's top directors of photography are photographing films for television.

Norbert Brodine, A.S.C., long one of MGM's top cinematographers, photographed the first of the 1950-51 series of Groucho Marx shows for television. When 20th Century-Fox summoned him to direct the photography on *The Frogmen*, William Sickner, A.S.C, a veteran on TV films, succeeded him. Sickner is also filming the Stokely Show for television.

Fred Jackman, Jr., A.S.C., is directing and photographing the Ralph Edwards TV show in Hollywood. This is filmed in 35mm with Mitchell cameras. Edwards has set up a complete production unit, indicating that all his shows for television will be made on film.

Fred's brother, Joe Jackman, is assistant cameraman with the Horace Heidt show which is produced on 16mm film for television. The Heidt company employs three Mitchell 16mm professional cameras and has spent over \$50,000.00 for cameras, lights and other equipment necessary for production of top quality video films.

At present, Heidt is building a studio on his ranch property in Van Nuys and here will be produced much of his future video program material.

Edgar Bergen's initial television show was produced personally by Bergen and photographed by Jerry Fairbanks Productions, with Tom Morris directing the photography. Three 35mm cameras were used and the show was shot in sequences on two separate evenings before a live audience at CBS studios in Hollywood. Over 30,000 feet of film was shot, reportedly twice as much as was necessary—and ten times more than went into the finally edited show.



EDDIE BRACKEN, who has his own television show, also heads a television film producing organization—Bracken Productions, Inc. Seen here lining up his Maurer 16mm camera for a scene, Bracken is currently producing "This Is Our House" for video.

The real veterans among television film cameramen—on the coast, at least—are Benjamin Kline, A.S.C, and Walter Strenge, A.S.C, both of whom have been working consistently at the Hal Roach studios, Hollywood's biggest TV film production center. Kline is shooting the Bing Crosby television film productions and Strenge is shooting video film for Roland Reed Productions.

Some other A.S.C. directors of photography finding increased activity in the field of television films are Ray Fernstrom, currently shooting for John Sutherland Productions, Inc., and William Sickner, who is directing the photography on the Pantomime Quiz video show. Mack Stengler, A.S.C., also may be considered a "veteran" in this field, having more than a year and a half of TV film photography behind him thus far. Stengler shot the Lone Ranger series for television.

Lucien Andriot, A.S.C., is currently directing the photography on the Walt Disney hour-long video show to be televised Christmas day. Previously, Andriot photographed the Life Of Riley television shows.

Other A.S.C. men who have become permanently affiliated with the booming television industry are Gus Peterson and William O'Connell. Peterson is engineering the lighting of the Alan Young show at CBS's KTTV studio. O'Connell is director of lighting at the KECA-TV Hollywood studio.

Early in November, what is reportedly the first serial on film to be made expressly for television went into production in Hollywood. The serial consists of thirteen chapters, each 27 minutes in length.

Said to mark a milepost in this tremendous new industry is the first hour-long show produced on film for television and previewed in Hollywood last month—Alexander Dumas' *The Three Musketeers*, produced by the Hal Roach Studio for the Magnavox Corporation. Directing the photography was Benjamin Kline, A.S.C.

In addition, there are hundreds of films currently being produced for television programs, not only in Hollywood but in Chicago and New York: Gene Lester's *Hollywood Calling*; Erskine Johnson's *Hollywood Newsreel*; the series of films starring Arthur Treacher, produced by Reynolds Productions; the *Forest Ranger* series by Rangers, Inc., Hollywood, and countless others.

All in all, television film production holds big promise for motion picture cameramen—16mm as well as 35mm.

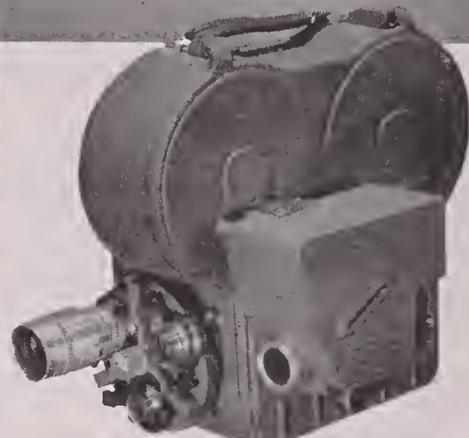
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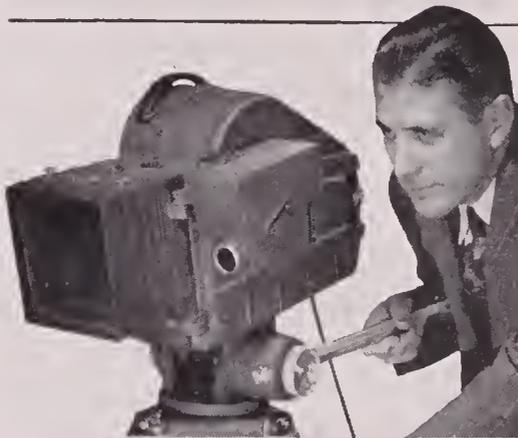
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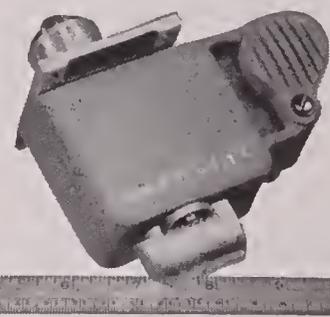
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SHORT SUBJECTS CLICK

(Continued from Page 422)

in a straight line. There is no time, as in features, to develop character. A player's character must be established on his initial screen appearance and he must remain in that character throughout the picture.

The picture must jump away to a fast start, as a sprinter coming off his starting mark. Likewise, it must come to a rapid close once the story is told. A good rule to follow is to launch the story with a flying start, tell it in proper speed, increasing to the climax, and then get it off the screen just as fast as you can without obvious abruptness.

Long experience has taught the professional the sure way of making shorts. The amateur can make his in the very same proved procedure. First evolve the basic idea or theme of the story. Then put it on paper in synopsis form. If it still seems good, make a more detailed synopsis, filling in all the salient particulars. The final step is to polish the synopsis and divest it of any trends to stray away from the central story line.

Now write the script or scenario, breaking the story into the forty or fifty scenes needed to pictorialize it. This is where you get your basic continuity. The story as a whole is cut into scenes; it is not a matter of trying to fashion a story out of scenes.

The next step is to consider the scenario for length. First drafts invariably run too long and must be condensed. This may be determined by actual trial. The professional often will have two or three people "walk through" the scenes, simulating the specified action in correct timing. A stop watch clicks the exact timing. Like the amateur, the professional has a given amount of negative and must make every foot of it count.

The professional tries to work in short scenes. Speaking in terms of 35mm. film measurements, which you can readily reduce to equivalents in 16mm. or 8mm., a ten-foot scene is relatively short, although to gain the effect of speed in comedies, the professional will use six-foot or even three-foot cuts. A fifty-foot scene is just about the limit for any one setup angle.

Now as to the nature of subject matter: Cartoon films are currently the most popular shorts on the screen today, but these are beyond the production abilities of the average amateur. Next in popular esteem come the comedies, particularly what are termed "situation" comedies. Here the premise or locale is quickly established and the central character or characters put in situations which of

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(MORE GORDON SPECIALS ON PAGE 442)

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themselves are amusing. It is rather a comedy of action than of acting. Such type of film is well within the ability of the advanced amateur movie maker.

The laugh-getting effects the professional tries to get with dialogue can, to a degree, be achieved by gag titles. Certainly, the titles in amateur films of this sort should be humorous in keeping with the story.

Next in order of screen appeal are scenic and travel pictures. It is in these two classifications that the amateur will find his greatest opportunities. Merit in such material rests on the unusualness or unfamiliarity of the audience to the pictured scenes, or in the rare and breathtaking beauty of the vistas.

With subjects of this sort, much depends upon the narrator—if the picture is in sound—or the title writer, where the picture is made silent. Today, with more and more amateurs using magnetic tape or wire to furnish synchronized sound with their films, the cinefilmer now has opportunity to develop skills in writing and recording sound, dialogue and music for motion pictures. Here bright and sprightly commentary contributes much in needed explanation, description and entertainment, but the same touch can also be given silent films with carefully written titles. An otherwise dull or average travel reel can be elevated to high screen rating by shrewd cutting and clever titling—or narration.

Another subject field is the novelty reel. This includes uncommon events—such as the Paricutin volcano subject mentioned earlier. A ping pong game,

swimming or diving event, curious industries, odd occupations, unusual factory processes—all these can be screened by the amateur cinematographer with a flair for originality or delineating the unusual, to enhance his prestige as a movie maker.

And now just a few words about camera technique. First the need for constantly changing camera angles should be emphasized. The ciné photographer should guard against the static shot—the “postcard” shot. There are instances where short subjects departments of Hollywood studios have considered stories which, because of peculiarities of construction, would necessitate shooting the entire reel in two or three setups. Due to the sheer inherent story value, they gambled, and filmed them. They were deadly on the screen. Slow, draggy, uninteresting. When similar stories were adapted to standard short subjects treatment, with its many short and fast cuts, in spite of speed they gave the impression of being twice as long. Audiences lost themselves in the story, drank heartily of the proffered entertainment, saw a fast parade of varying scenes—hence the impression of greater length.

This is something for the ciné amateur to consider when inclined to leave in his edited pictures every frame of a given shot—unwilling to use the shears in true professional editing procedure: trimming scenes down to their bare essentials. In the final analysis, it is this skilled cutting that actually makes a short subject click on the screen.

SOUND AND THE CINEMATOPHAGER

(Continued from Page 416)

is quite important here. For example, the photographer on an industrial film may make a scene of a workman loading crates onto a boxcar. If the action is not particularly engrossing, he may stop his camera after four seconds. But if he knows there's eight seconds of narration about shipping the product, he'll very likely film at least eight seconds of this loading process. Then, even if the cameraman can't find time to get more transportation footage, the editor will be able to “fill out” the picture to fit the talk on shipping the sponsor's products.

In writing the narration, remember that it's unwise to keep your narrator talking every moment the picture is on the screen. Pauses are desirable and give the audience a chance to watch the film in silence for a few seconds. A constant flow of chatter begins to sound like an irritable buzz after a while and our ears simply cancel it out. Several of the shots

in a picture are sure to be self-explanatory, while others—especially in a travel film—might have been cut in for their beauty alone. This footage should be left silent or accompanied with music. A narrator who speaks only when he has something to say will be respected by his audience.

Although it sounds simply and obvious, there's one rule about writing narration that even the experts sometimes forget, and that is: Don't tell the audience what they can see for themselves on the screen, unless special emphasis is desired. If you have a scene of people sunbathing on a beach, commentary such as “These sunbathers are enjoying themselves on the beautiful beach here,” is redundant. Instead, a sentence like this might be used: “The sunbathing must be mighty fine here, for travelers come from Washington, Oregon, and many Eastern states to visit Catalina and its

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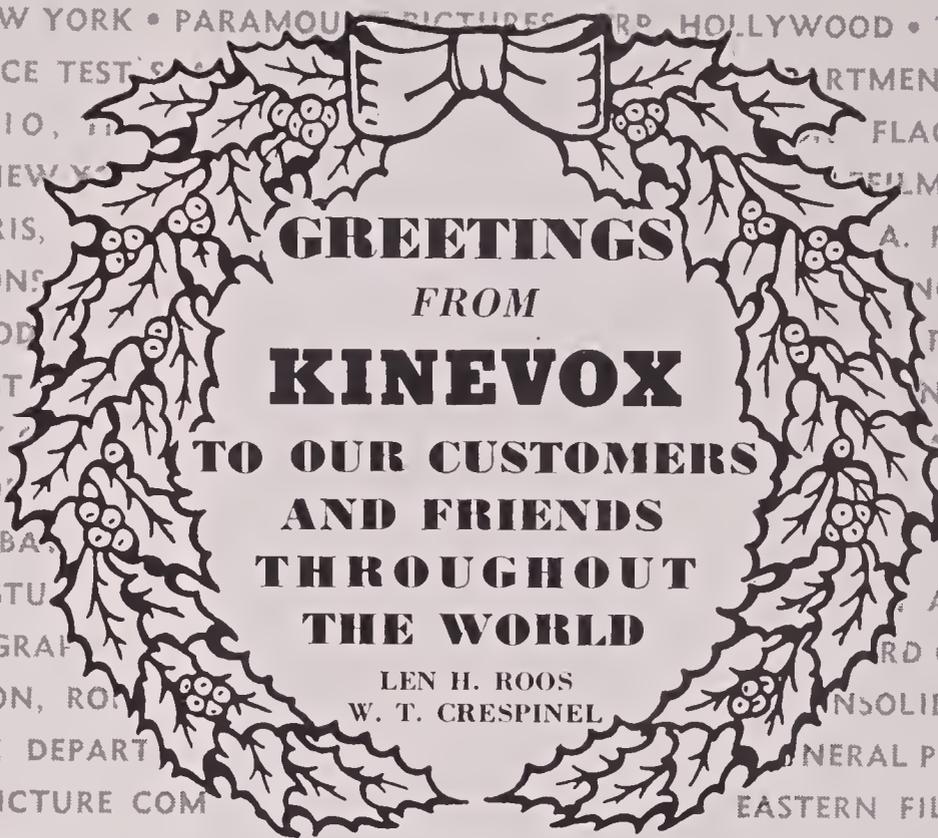
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beautiful beaches." This second sentence, while not an example of deathless prose, does eliminate the schoolbookish explaining found in the first example and in many improperly-prepared scripts.

Narration scripts for pictures that demonstrate something specific are, as a general rule, easier to write than those dealing in generalities. A film on pineapple canning or a trip to the Grand Canyon presents no special problems to the script writer. But a film on, say, taxation or the modeling industry might require extra thought. The first two subjects could be filmed by a competent cameraman without even a script; the writer's job would be only to give further information and explanations of what is on the screen. But the modeling business is a more abstract subject and a film on it requires more organization of material. While the narrator discussed how models are chosen, how the agencies operate, etc., the audience would see scenes designed to illustrate his remarks. Since there are so many ways to present a subject as complex as a unique type of business, it is important to have an adequate script or outline before filming begins to avoid waste.

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higher level of abstraction. Therefore, a film on taxation would give its information almost entirely in the narration, with the screen acting merely as an agent of illustration.

Before post-recording a film, the narration should be read against the film being run either on a projector or a viewer. Some re-editing of the picture and sound track is usually needed after recording to match the two to best advantage, but it is a good idea to reduce these adjustments to a minimum. Unnatural rhythms in the flow of the announcer's voice or the picture can result if too much editing is done to match the two.

Some writers prefer to revise their scripts as they run the film through a Moviola. Thus, they may repeat any section of film as often as necessary to match their wording for it.

There are two schools of thought concerning the recording of narration. Some producers prefer to project the picture while the announcer reads from his script, while others rehearse the announcers with the film running but record without it. Your own choice can be made after experimenting with both systems.

Sync sound is being used more often in the production of commercial films these days, largely because sound recording equipment is more readily available. Previously, only a few producers had their own sound recording units and budgets were seldom large enough to rent them until the time came to record music and narration. Today, also, magnetic tape and film recorders are being used by many 16mm. and 35mm. film producers to obtain lip-sync recordings "on the spot" during the regular filming. And small recording studios with sound channels are now more generally available at reasonable rates in several large cities.

The simplest use of sync-sound recording occurs in shots of a person speaking, facing the camera. This device is used when the narrator is a well-known personality who should be introduced to the audience or when an expert is invited to supply some information in his own words. The "March of Time" often adds authority to its films by having leaders in government, industry, and labor speak directly to the audience.

All types of non-theatrical films now feature some dialogue scenes photographed in sync sound. A commercial picture introducing a new product is likely to contain a sequence in which typical users discuss the advantages of that product. Political films get their messages across better with scenes in which voters talk over issues of the day—to the inevitable advantage of the sponsoring group. Producers have dis-

covered that professional actors aren't needed if a strongly "realistic" flavor is desired in the film. In fact, non-professionals often make a picture seem more convincing because the audience assumes they are saying what they really think. The hesitant, down-to-earth speech of newcomers to acting causes an audience to discount that there are writers, directors, and editors controlling what is said.

The question might arise in a story conference: "When should we use dialogue sequences?" There are several excellent uses of dialogue in documentary films, and the first to be described is the one in which dialogue brings the film to a "human level." A film with many impersonal scenes can lose effectiveness with an audience if it doesn't seem to be about something that affects them personally. Natural dialogue can bridge this emotional gap between the filmmaker and his audience. For example, the "March of Time" used dialogue very cleverly in a short on men's clothing. At one point, a scene in a clothing store was introduced in which a man and his pretty, young wife argued about the kind of suit he should buy. Then, later in the film, we meet the couple again, discussing finances and how much they can afford for clothes. These scenes injected

An index to contents of all issues of American Cinematographer for 1950 may be found on page 438. Back issues are available for all months.

the element of human interest and brought the picture closer to our own experiences.

Another use of dialogue is found in films designed to sway public opinion. If there are some obvious objections to the ideas presented, a clever film-maker may cut to a scene of a discussion group. A panel member raises his objection, as members of the audience say to themselves, "Just what I was wondering about!" Then the objection is answered; and the viewers of the picture, if all went well, are given the impression the issue was met straight on.

Very important facts can be given proper emphasis if they are spoken in sync sound in an otherwise all-narrated picture. We all tend to assume that the people on the screen won't speak at all if narration is used exclusively for the first few minutes of the film. Then, when the time has come to bring forth the important information, the picture cuts unexpectedly to a man who tells us what we should know. This technique was used in the "Why We Fight" Army indoctrination film series produced during the war.

Two places in a film where music seems to be a "must" are behind the opening and end titles. But whether it is used between these two landmarks is a matter of choice. Musical backgrounds are so common that we can safely put them into almost any film without danger of distracting from the subject matter. But continuous music can be a distraction, however, and a good plan would be to reserve music for:

1. Sections of the film that need emphasis.
2. Sequences that are rather pictorial and naturally call for music.
3. Sequences that are disconnected visually and that seem to flow smoother with music to tie them together.
4. The divisions, if any, between different parts of a film. Music without narration can signify the ending of one "chapter" and the beginning of another.

Film composers speak of two different approaches to scoring a picture: mood music and "Mickey Mousing." Mood music refers to background music that fits the picture as to general mood. Mickey Mousing, on the other hand, is the term that describes cueing music to fit each movement on the screen. It is named after Walt Disney's famous Mickey Mouse, of course; cartoon music usually matches the action with such fidelity that the name is appropriate.

Fortunately, the easiest method of scoring is the most commonly used. Mood music can be used with most any documentary film. Appropriate selections are available to the low-budget producer on records of cleared music. These recordings are frequently indexed by both mood and title and can often be judiciously selected to fit a picture as closely as an original score. Experienced music editors are able to lift short passages from this "canned" music and fit them into the film to give the effect of Mickey Mousing. Their trained ears quickly detect lines that synchronize with key actions of the picture.

As for sound effects, an editor can usually decide for himself which ones are worth cutting into the sound track and which ones are unnecessary. In a narrated picture, an audience doesn't expect everything on the screen to make noises as in real life and in dramatic films, but certain effects are seldom omitted. Trains, guns, explosions, running horses, and lightning affect us as being strangely silenced if their accompanying noises are not heard.

Incidental sounds that we seldom pay much attention to in reality can be overlooked in a documentary film. Street noises, opening doors, footsteps, etc., are left off the sound track unless they carry a special significance. END.

PHOTOGRAPHING THE SPORTS FILM

(Continued from Page 421)

made with the athletes or the officials. Usually such cooperation is readily available, provided that approach is made through proper channels.

No matter for what purpose a game or sport is being filmed, there are certain techniques which are universally applicable; for example, it is essential to create a "mounting" for the action by showing something of the locale, the spectators, and any interesting byplay that takes place on the sidelines. Such shots will serve a two-fold purpose: they will not only provide a valuable means of catching the spirit of the event, but also serve to provide *cutaway* shots to bridge gaps in time or action. Purely from the audience standpoint, these add variety and interest to the film.

Wherever you have an unusual or especially pictorial locale, play it up by dramatizing it with nice full establishing shots or interesting angle shots of closer detail. If you are shooting deep sea fishing near Catalina Island, skiing at Lake Placid, or diving at Acapulco, you will most certainly want interesting shots of these locales to introduce the sports sequences.

For most sports events a turret camera set up in a central location that commands the full field of play will net important footage. The lenses in the turret should consist of a wide angle, a standard focal length, and a telephoto at least twice the focal length of the standard lens. A good optical viewfinder duplicating the fields of all these lenses is also a necessity. Sports action, such as football where players' movements are very close and rapid, is difficult to follow at best, and if the cameraman does not have a viewfinder which will enable him to see and follow the ball, scenes will be erratic, to say the least.

The ideal method for making record shots of a game is to have one or more cameras set up at a high central vantage point, and to have one more camera, preferably hand-held, assigned to a cameraman on the ground level of the playing field or floor. This latter operator can roam around freely and rapidly to record close details of the action, and his vantage point will bring the spectator more closely into the game itself.

The value of closeups in the sports film cannot be overemphasized. It is the closeups that not only focus attention on specific plays or maneuvers, but which also bring the audience face-to-face with the force and pattern of the action itself. Good closeups in sports films, when shot uncontrolled, are rela-

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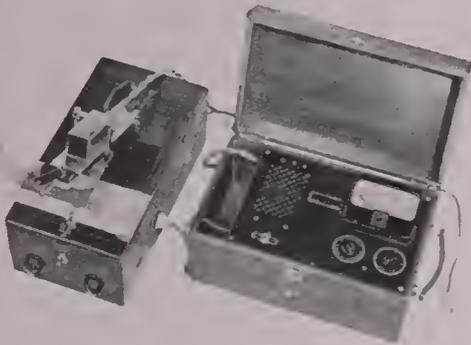
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tively difficult to get. Telephoto lenses will help very much, but the mobile cameraman on the field stands a better chance of getting dynamic closeups, provided that he is permitted by officials to approach close enough to get them. Where the cameraman is unable to get closeups by these methods, he may find it necessary to stage such scenes after the game is filmed and cut them in for proper effect. This may not be strictly legitimate in the record film, but it is quite permissible in the entertainment or staged type of sports film.

With action developing as fast as it does in the usual sporting event, it is good practice for the cameraman to reduce his worries about camera mechanics to a minimum. Depending upon how far he is from the subject, he might very well set his wide-angle lens at infinity, the standard lens at universal focus, while concentrating upon keeping the telephoto lens critically focussed. It is also a good plan to take basic exposure readings, either incident or reflected, before the event begins, and to follow those readings consistently, unless weather conditions change in the middle of the game. Filming indoors provides its own special exposure problems. Some sports, such as wrestling, boxing, or ice shows, are usually sufficiently well-lighted to enable successful filming in color or black-and-white, depending upon the speed of the lens used. But here again it is wise to take exposure readings in advance, just to be sure.

Special sports present special problems. Swimming, diving, and underwater fishing scenes are immeasurably enhanced by underwater shots—and there are many pools and natural locales which provide glass underwater compartments especially for such shooting.

Skiing is a sport which provides opportunity for extremely dramatic photography, but one has the problem of extreme brightness contrast ratio. It is good general practice to expose for the snow in order to keep this expanse of white from burning out. With panchromatic film and a blue sky, no filters should be used except perhaps a light yellow filter to cut haze, because with exposure calculated for the snow the sky will automatically render slight under-exposure enough to hold a dramatically deep tone. Moonlight effects can be achieved by using a 25-A red filter. Low angles of skiers against the sky taken from below a ridge just as the jump is made make very interesting shots. In fact, one can say generally that low angle shots with filtered sky background are very effective in most types of sports filming.

Slow motion filmed at speeds of anywhere from 32 to 64 frames per second

provides an excellent means of studying athletic technique in detail. Golfers and tennis players are especially interested in such films that aid them to study and improve their individual techniques.

Under special effects one might mention upside-down filming, which has the effect of reversing the action. The footage filmed upside-down is spliced into the finished picture right-side up. This familiar technique, though often used to excess in the professional motion picture, is still quite amusing when properly conceived. Exaggerated action speed achieved by filming at a slow speed is also good for a laugh on occasion.

SURGICAL CINEMATOGRAPHY

(Continued from Page 417)

Burke's initial surgical filming was of a gall bladder operation. Using a 16mm. Filmo camera and orthochromatic film, he photographed the entire operation. In those days it required weeks before Eastman laboratories returned processed films and therefore some time elapsed before Burke was to learn that his entire filming effort was in vain. The lighting equipment available to him and used in photographing the operation had not been adequate for the slow-emulsion ortho film, which was all that was available at that time.

Soon after, Burke opened a camera store in Los Angeles specializing in cine' equipment, and among his customers were several physicians and surgeons. Many of them, having taken up 16mm. movie making as a hobby, visualized the potentials of the cine' camera in recording difficult surgical operations as a means of instruction for others. When these doctors learned that Burke already had some experience in filming surgeries, he was sought out for advice and later engaged to undertake the photography of such films for several of his medico-clientele.

It was the introduction of Kodachrome film and the Cine Special camera, however, that gave Burke the important tools needed for success in this undertaking—the film for recording in natural colors the intricate textures and tones of the anatomy, and the reflex-focusing feature of the Cine Special camera which now enabled him to obtain needle-sharp focus and frame centering so essential to success of this type of cinematography.

In ensuing years, Burke developed special equipment to meet his particular filming needs. He continues to use the Cine' Special camera and 100-foot magazines. Because a tiny spark could easily ignite the volatile gases often used in

anesthesia, electric camera motors are taboo, and Burke's camera continues to operate on its spring motor. Hundred-foot magazines are used because the larger magazines make the camera top-heavy in the vertical position it is most often used, and this might prove disastrous in the midst of a serious operation. His Special has only the regular two-lens turret. The addition of a three- or four-lens turret might also unbalance the camera. Necessary auxiliary lenses are kept close at hand in a special case attached to the tripod, and are quickly interchangeable by virtue of the standard Eastman bayonet mount.

The tripod Burke uses with this camera was especially built to afford a maximum camera elevation of ten feet. It is exceptionally sturdy, cannot slip on any type floor surface and is adjustable down to the usual range of camera heights afforded by other tripods. In addition it is equipped with special brackets to hold four spotlights. A small stepladder is another important accessory. Other equipment includes a number of photo lamps and stands. All are readily demountable and transportable in dust-proof cases built especially for the purpose.

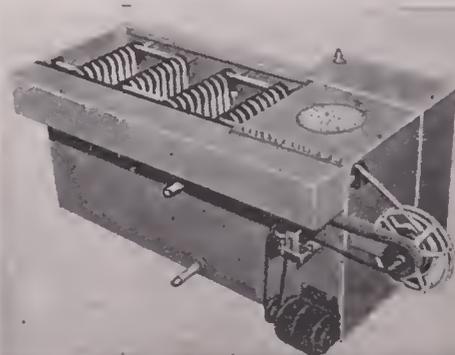
Burke's studio occupies a modest store room in a modern business block on Los Angeles' Beverly Boulevard. Beyond the reception room and office is the actual studio space with its photographic equipment. This is furnished to represent a typical modern doctor's office and consultation room, and is complete with examination table and chairs. Overhead is a permanent installation of floodlights controlled individually or in gangs from a switch panel in a convenient location on the wall. There is a camera boom and a fully mobile dolly which Burke designed himself, and in nearby cabinets are stored, in addition to supplies of photofloods, camera attachments and accessories, a variety of human skulls and other anatomical parts, segmented and hinged, which are used in filming close-ups. These afford the filming of detailed cross-sectional views of those parts of the human anatomy for explanatory sequences that often precede actual surgical scenes in a picture. In addition to this equipment, Burke maintains complete lighting and photographic equipment at the Los Angeles County Hospital where much of his filming is done for surgeons who operate there.

Burke's greatest assets, however, are intangible. The equipment and accessories listed above can easily be duplicated. Not so easy to establish or replace is his personal reputation for complete trustworthiness, his wide knowledge of surgery, and the vast experience of filming in the operating room that he has

(Continued on Page 437)

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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, "The Mask of The Avenger," with John Derek, Jody Lawrence, Anthony Quinn, and Eugene Iglesias. Irving Pichel, director.
- BURNETT GUFFEY, "Two Of A Kind," with Elizabeth Scott, Edmond O'Brien, Terry Moore, Alexander Knox. Henry Levin, director.
- HENRY FREULICH, "Dick Turpin's Bride," with Louis Hayward, Patricia Medina, Alan Mowbray and Barbara Brown. Ralph Murphy, director.
- JOSEPH BRUN, "The Whistle At Eaton Falls," (DeRochemont Prodn. Shooting In New Hampshire), with Lloyd Bridges, Carlton Carpenter, Dorothy Gish, Murray Hamilton. Robert Siodmak, director.
- ALLEN SIEGLER, "Smuggler's Gold," with Cameron Mitchell, Amanda Blake, Carl Benton Reed, Peter Thompson. William Berke, director.
- BURNETT GUFFEY, "Si.occo," with Humphrey Bogart, Lee J. Cobb, Marta Toren, Everett Sloan and Zero Mostel. Curtis Bernhardt, director.

Independent

- ERNEST LASZLO, "Deep Is The Well," (Harry M. Popkin Prod.), with Richard Rober, Barry Kelley, Christine Larsen, Henry Morgan. Leo C. Popkin and Russell Rouse, directors.
- LIONEL LINDON, "Drums In The Deep South" (King Bros. Prod. Technicolor), with James Craig, Barbara Payton, Guy Madison, Barton MacLane, Morris Ankrum. William Cameron Menzies, director.
- ERNEST MILLER, "The Steel Helmet" (Lipert Prod.), with Gene Evans, James Edwards, Steve Brody, Robert Hutton. Sam Fuller, producer-director.
- JAMES WONG HOWE, "He Ran All The Way" (Roberts Prod.), with John Garfield, Shelly Winters, Wallace Ford, Gladys George. John Berry, director.
- ERNEST MILLER, "Black Lash," with Peggy Stewart, Ray Bennett, Clark Steven, Bryon Keith. Ron Ormond, producer-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.

M-G-M

- ROBERT SURTEES and WILLIAM SKALL, "Quo Vadis" (Shooting In Italy), with Robert Taylor, Deborah Kerr. Mervyn LeRoy, director.
- PAUL C. VOGEL, "Go For Broke," with Van Johnson, Warner Anderson and Richard Anderson. Robert Pirosh, director.
- JOHN ALTON, "Father's Little Dividend," with Spencer Tracy, Joan Bennett, Elizabeth Taylor, Don Taylor, Billie Burke and Moroni Olsen. Vincent Minelli, director.

- ALFRD GILKS, "Excuse My Dust" (Technicolor), with Red Skelton, Sally Forrest, MacDonald Carey, William Demarest and Monica Lewis.
- WILLIAM MELLOR, "Soldiers Three" (Technicolor), with Stewart Granger, Walter Pidgeon, David Niven, Robert Newton, Greta Gynt and Robert Coote. Tay Garnett, director.
- 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 RUTENBERG, "Kind Lady," with Ethel Barrymore, Maurice Evans, Angela Lansbury, Keenan Wynn, Doris Lloyd and Betsy Blair. John Sturges, director.

Monogram

- HARRY NEUMANN, "Navy Bound," with Tom Neal, Regis Toomey, Wendy Waldron. Paul Landres, director.
- MARCEL LEPICARD, "Bowery Battalion," with Leo Gorcey, Huntz Hall, Virginia Hewitt, Donald McBride, Frank Jenks. William Beaudine, director.
- HARRY NEUMANN, "According To Mrs. Hoyle," with Spring Byington, Tanis Chandler, Stephen Chase. Jean Yarbrough, director.
- GILBERT WARRENTON, "Gold Bullets," with Johnny Mack Brown, Lois Hall. Wallace Fox, director.

Paramount

- VICTOR MILNER, "Carrie," with Laurence Oliver, Jennifer Jones, Eddie Albert, Ruth Warrick, Basil Ruysdael and Mary Murphy. William Wyler, director.
- LOYAL GRIGGS, "The Last Outpost" (Pine-Thomas) (Technicolor), with Ronald Reagan, Rhonda Fleming, Bruce Bennett, Bill Williams, Noah Berry, Jr., and Peter Hanson. Lewis Foster, director.
- JOHN SEITZ, "Dear Brat," with Mona Freeman, Billy De Wolfe, Edward Arnold, Lyle Bettger, Mary Phillips, Lillian Randolph. William Seiter, director.
- 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.

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.
- J. ROY HUNT, "Gun Notches," with Tim Holt, Richard Martin, Jean Dixon, Robert Bice. Lesley Selander, 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.
- J. ROY HUNT, "Pistol Harvest," with Tim Holt, Richard Martin, Joan Dixon, Guy Edward Hearn. Lesley Selander, director.
- WILLIAM SNYDER, "Flying Leathernecks" (Technicolor), with John Wayne, Robert Ryan, Don Taylor, Jac 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.
- LEO TOVER, "Follow The Sun," with Glenn Ford, Anne Baxter, Dennis O'Keefe, and June Havoc. Sidney Lanfield, director.
- MILTON KRASNER, "I Can Get It For You Wholesale," with Dan Dailey, Susan Hayward, Dennis King, Steve Geray and Vicki Cummings. Michael Gordon, director.
- HARRY JACKSON, "Take Care Of My Little Girl" (Technicolor), with Jeanne Crain, Jean Peters, Dale Robertson, Mitzi Gaynor, Helen Westcott, Betty Lynn and Jeffrey Hunter. Jean Negulesco, 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.

Universal-International

- RUSSELL METTY, "Up Front," with David Wayne, Tom Ewell, Jeffrey Lynn, Richard Egan, Darren Dublin and Butch Cavell. Alexander Hall, director.
- GEORGE ROBINSON, "Abbott & Costello Meet The Invisible Man," with Bud Abbott, Lou Costello, Nancy Guild, Adele Jergens, Arthur Franz, Wm. Frawley and Gavin Muir. Charles Lamont, director.
- 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 Laurie, Jesse White and Cecil Kellaway. Arthur Lubin, director.

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

Warner Brothers

• ERNEST HALLER, "Jim Thorpe, All-American," with Burt Lancaster, Charles Bickford, Phyllis Thaxter, Steve Cochran. Michael Curtiz, director.

• WILFRID CLINE, "Lullaby Of Broadway," with Doris Day, Gene Nelson, Billy de Wolfe, S. Z. Sakall and Ann Triola. David Butler, director.

• TED McCORD, "Goodbye My Fancy," with Joan Crawford, Frank Lovejoy, Eve Arden, and Virginia Gibson. Vincent Sherman, director.

• SID HICKOX, "The Travelers," with Kirk Douglas, Virginia Mayo and Walter Brennan, Raoul Walsh, director.

• 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.

SURGICAL CINEMATOGRAPHY

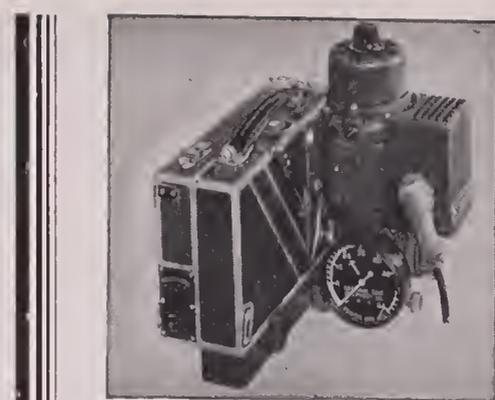
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acquired over a period of twenty-five years.

In his position as surgical cinematographer his knowledge of surgery etiquette, its procedures and its technical terminology must equal the surgeon's. His position always is that of a guest of the hospital. He has no legal rights there, and he must conform to the strict hospital codes. His equipment must be sterile and draped in white linen when set up near the operation. As with surgeons and their attendants, Burke must be clothed in the conventional cap, mask and "whites" before entering the surgery room.

Other precautions consist of securely taping to sockets the electric cables furnishing power for his photo lamps. The circuits must be under-loaded to prevent any power failure during photography. Fresh photo lamps are used for every operation to avoid any possible chance of bulb failure or explosion—although the chances of the latter is said to be one in one-million.

Essential to the success of surgical films is the matter of complete cooperation with the surgeon, his associates and assistants. The cinematographer and the surgeon, Burke points out, must first understand each other's problems and be able to work harmoniously together. Prior to a filming assignment, the surgeon explains to the cameraman what



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the pathological condition is, where it is located, what he intends to do and what he expects to find en route. He emphasizes the important steps in the procedure about to be undertaken. The cameraman then plans his shooting accordingly. Because an operation may consume two or three hours, sometimes more, it is obviously impractical as well as unnecessary to film all of it. Except in cases of exceedingly rare operations, most of the routine will be familiar to both student and surgeon. Therefore, filming plans encompass only the highlights which in most cases are ample to cover the main points to be demonstrated, and this usually provides sufficient footage for a film from fifteen to twenty

minutes screening time.

During the filming of an operation, teamwork between cinematographer and surgeon must be close. Consideration must be given to whether the surgeon is left or right handed, for the field must not be hidden from the camera lens by the surgeon's hands any more than is absolutely necessary. Because of this, the use of special instruments is sometimes required so that the surgeon's hands may move smoothly and steadily outside of camera range.

An experienced surgical cinematographer such as Burke watches closely for the critical moments of the surgery. He has no script to go by. Essential

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movements must not be missed for there are never retakes in this work, and for this reason there must be complete confidence, cooperation and understanding between surgeon and cinematographer to effect the desired results.

The question most often asked Burke by other cinematographers is how he arrives at exposure. Use of an exposure meter, he points out, is impractical. To make a pre-operation reading would establish a workable f/ stop figure, providing that lighting remains fixed during the operation; but this rarely is the case, chiefly because the surgeon and his assistants are always moving about in the very limited field and their heads invariably get in the way to obscure light from one or more lamps.

Burke has come to know light values through years of experience in this particular work. He knows that if he has a certain number of photolamps illuminating the field covered by his lens, the exposure figure is so much. When a lamp is obscured by movement of the surgeon or assistants, Burke intuitively figures the illumination difference and changes his exposure accordingly. Often he works with one hand on the lens diaphragm ring, opening up or closing the lens to conform with the prevailing light, while the camera is running.

Photography of actual surgeries is only a part of the production of such films. Invariably the pictures begin with an orientation sequence consisting of diagrams, animation or reproduction of X-Ray negatives — perhaps all three. This work is performed in the titling and animation room of Burke's studio and here, of course, all titles for the films are also made.

Most of the films made by Burke today are in sound and for this phase of a production, the film is taken to a local sound studio where the carefully prepared narrative is recorded, then later combined in the dupe prints of the picture.

While most of Burke's work is by special assignment by leading surgeons of the country, in recent years he has undertaken the production of a series of medical and surgical films for his library, which he makes available to physicians and surgeons, schools and colleges. Films in this library now number over 200 and more are being added as time goes on.

Within a few months, Burke will begin a tour of the United States, visiting most of the Master Surgeons of the country — men who are tops in their profession. Burke plans to photograph one or more operations by each of these men as a permanent record of their work and technique. These films will become an important part of the Burke Surgical Film Library and provide a priceless source of instruction and visual data for tomorrow's surgeons as well as the medical profession of the country.

SIGNIFICANT KEYLIGHT

(Continued from Page 415)

elements of illumination on the scene, such as fill-light, back-light, and line-light are generally adjusted to be in proper intensity relation to the keylight.

Thus it may be noted that the keylight is the heart of the plan of photographic illumination. It is of greatest significance, both with respect to artistic effect and as the basic determining factor of the illumination level.

Since the keylight is of such vital importance in the illumination of a scene it occurred to me, several years ago, that a measurement of keylight intensity might serve as an excellent foundation for exposure control. Accordingly a long series of tests were conducted on this matter. Some very interesting findings resulted.

One finding of considerable significance was as follows: The keylight has two properties which are of prime importance in exposure determination.

The first is the intensity projected to the position of the subject. This can best be measured at the position of the subject, by the use of a light meter pointed toward the light source.

The second property of importance is the location of the keylight with respect to the camera and subject. It will be appreciated that if the keylight is located approximately behind the camera

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it will shine fully on all parts of the camera-side of the subject's face, and consequently will have a relatively high exposure value. If the keylight were located well around behind the subject (assume that the subject is facing the camera), it will shine on possibly only one-fourth of the subject's face, thereby leaving the other three-fourths in shadow. In this location the keylight would have a much lower effective illumination value.

Since the relative location of the keylight has an effect on the exposure value, it is desirable to classify the keylight as

1. Keylight located in a position approximately behind the camera. This is a 0° Keylight. (See Figure 3.)
2. Keylight located in a position roughly 45° above the camera or to one side of the camera. This is a 45° Keylight.
3. Keylight located roughly overhead, or to one side of the subject. This is a 90° Keylight.
4. Keylight located somewhat around behind the subject. This is a 135° Keylight.

Any keylight can be classified as belonging in one of the four groups.

If a bright light is located further around behind the subject than a 135° position, then it cannot qualify as a keylight. In such a position its effect on a subject is that of a back-light or a line-light only.

The keylight source is usually very easy to locate. Outdoors it is generally the sun. If the subject is located in the shade, the keylight usually comes from an area of sky. If the subject is in the open, and the sky is overcast, the keylight may usually be considered as being located about 45° above the camera.

In nearly all photography it will be found that the 45° keylight is by far the most common. In studio work the keylight is wherever the cinematographer chooses to place it, however the 45° location seems to be frequently used.

After an intensive study had been made of the properties of the keylight, it seemed desirable to design an exposure meter which would be directly adapted to those properties. This was accomplished.

The result was the “Keylite” meter shown in Figure 2. This meter takes into account the *two* basically important qualities of the keylight: 1) The intensity projected to subject's position. 2) The relative location of keylight source.

This meter differs from an ordinary exposure meter in several important respects. The light collector is so designed that the meter may be pointed directly at an intense light source without damage to the instrument. The computer dials are designed so as to take into

account the effective value of the keylight illumination.

The “Keylite” meter is very easy to use. Generally used at subject's location, it is pointed directly toward keylight source. If desired, the meter may be aimed in various directions until the maximum reading for keylight is noted on the pointer dial. This feature affords confidence in the use of the meter because the maximum reading is always the significant reading. The light intensity in foot-candle units is noted. This value is used on the computer dials which form an integral part of the meter. The relative location of keylight source is classified by the operator and that factor is also used on the computer dial. The film speed factor is, of course, also provided for on the dials.

The computer then shows the answer in terms of appropriate lens aperture (F-stop) for any given shutter time. The result is perfectly uniform and desirable exposures for every scene. The “Keylite” meter handles black and white photography and color photography equally well. As a matter of fact this meter seems to be ideally suited to color photography. The natural characteristics of the meter just suit the unique and exacting requirements of color films.

The “Keylite” meter is quite versatile. It covers a range of light intensities from very low levels indoors to the brightest sunlight outdoors. It handles all commonly used film speeds. It covers the useful range of lens apertures and shutter times. The meter can be used to advantage not only as an exposure control meter, but also as an indicator of illumination contrast. By use of the meter, illumination contrasts can be easily measured, and consequently steps can be taken to keep these contrasts at appropriate values.

It has been found that measurement of the keylight for exposure control purposes serves to eliminate the effects of a number of variables which sometimes tend to confuse the results obtained with an ordinary reflected-light meter. Such variables as change in composition of subject, change in area of included sky, color of subject, etc., have no effect on the operation of the “Keylite” meter because it does not “look at” the subject. The meter “looks at” the keylight source, which is the prime factor in exposure control.

Use of the “Keylite” meter, over an extended period of time in practical photography, has consistently indicated that it is an instrument which can be of great assistance to any photographer, for motion pictures or stills, color or black and white, studio use or outdoors.

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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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ALPINE CAMERA CO.,

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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.

SPECIAL EYEMO CAMERAS—Rebuilt factory inspected; magazine and motor adaptation.

EYEMO ACCESSORIES AND PROFESSIONAL CINE EQUIPMENT—Eyemo Magazines, developing outfits, printers.

FREE CATALOG: full description and prices.

Send this ad to BURKE & JAMES, INC.
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AUDIO AKELEY single system sound camera complete with Akeley sound head, Gyro tripod, 3 lenses, view finder, Maurer mixing amplifier. Complete with cables, power supply and W.E. microphone. Also 35mm. Blue Seal Sound Recording Equipment.

CAMERA EQUIPMENT CO., 1600 Broadway, NYC 19, N. Y. Cable: Cinequip.

MOLE-RICHARDSON — 24" Sunspots. BROWN-ASHCRAFT Rotary Spots. Some converted to 100 Amp. H. I.. F.O.B. New York. Box 1098, AMERICAN CINEMATOGRAPHER.

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

CAMERAMAN—Twenty years intensive experience all phases 16mm. and 35mm. documentary, educational, scientific cinematography. 16mm. color specialist. Fully capable script to screen assignments. Knowledge languages, arts. Willing relocate. Presently employed. Box 1095, American Cinematographer.

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DUPLEX 35 Step Printers, with light changers. Rebuilt\$795.00

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AURICON CINEVOICE, demonstrator.....\$555.00

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CINEPHON 35 News Camera, mtr., 4 lens.....\$795.00

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for automatic operation of (any) camera and light for TIME-LAPSE CINEMATOGRAPHY and ANIMATION as used by many organizations since 15 years. Microcinema Equipment.

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ROLAB STUDIOS

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MITCHELL, B & H, EYEMO, DEBRIE, AKELEY ALSO LABORATORY AND CUTTING ROOM EQUIPMENT

CAMERA EQUIPMENT COMPANY

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CABLE: CINEQUIP

WANTED EYEMO, Cineflex or Arriflex in good working condition, at a fair price. Samuel Kravitt, 1096 Chapel St., New Haven, Conn.

HOUSTON 16MM. Processing machine. 16MM. Step printer. Densitometer. SAM'S ELECTRIC SHOP, Passaic, New Jersey.

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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 1100, AMERICAN CINEMATOGRAPHER.

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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.

MISCELLANEOUS

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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 441)

SLIDES, PHOTOS & FILMS

TWELVE 4 x 5 photos of Hollywood Models, carefully selected subjects. \$1.00 set. No c.o.d.'s. JAMES ELLARD, 2925 1/2 North Main St., Los Angeles 31, California.

NATURAL COLOR SLIDES, Scenic, National Parks, Cities, Animals, Flowers, etc. Set of eight \$1.95. Sample & List 25c. SLIDES - Box 206, La Habra, California.

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YES, we have the type Negatives you're looking for, 12 4x5 Negatives fine grain developed, 12 new models, 12 model releases. Every one a full figure. All originals, no duplicate. All for \$15.00. No C.O.D. 12 2 1/4 x 3 1/4 negatives, full figure with releases. \$6.00. James Ellard, Box 929, Elsinore, 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 Columbia 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 429, a complete line of 16mm. and 35mm. negative and positive stock at a fraction of prevailing market prices.

CONTINUOUS AND STEP PRINTERS

BURCHELL CONTINUOUS PRINTER, 35mm printer used for continuous contact printing on paper. Unit is in self-contained case with light intensity control\$175.00
STEP PRINTER, with Geneva movement \$75.00

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.....\$55.00

OTTO K. OLSON CRECO, 2000 watt Mogul Bi-Post base 18" spotlight, less lens.....\$28.50

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 SOLAR SPOT, (M-R Type 410), 1000 watt or 2000watt, focusing, 9 7/8" Fresnel lens, double extension stand with casters. New.....\$98.50

MOLE-RICHARDSON CINELITE, (Type 16), 500, 1000 watt, double extension stand, casters, portable. New\$49.50

REELS AND CANS

Reel or can 16mm x 400 ft. used.....35c
 Reel or can 16mm x 800 ft. used.....89c
 Reel or can 16mm x 1200 ft. used.....98c
 Reel or can 16mm x 1600 ft. used.....\$1.19

CAMERA AND ANIMATION MOTORS

MITCHELL 12-VOLT DC variable speed motor\$295.00

BELL & HOWELL 12-VOLT DC Studio Camera Motor.....\$295.00

ACME ANIMATION MOTOR.....\$475.00

CAMERA MAGAZINES

BELL & HOWELL 400', metal.....\$ 58.50 ea.

BELL & HOWELL 400', composition..\$ 48.50 ea.

BELL & HOWELL 1000'\$115.00 ea.

MOVIOLAS

MOVIOLA, 35MM, MODEL D. New.....\$325.00

MOVIOLA, 35MM, MODEL D. Recond.....265.00

MOVIOLA, 16MM SOUND. Three heads; separate sound and picture or composite may be run. Model ULPCS. Like New.....\$1285.00

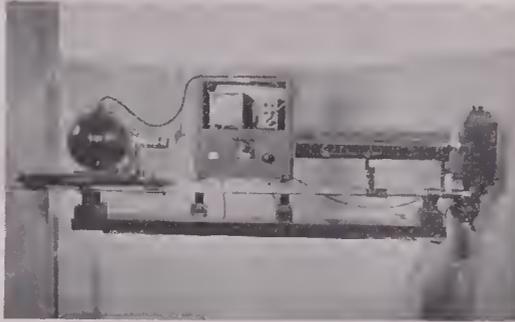
See Our **BIG AD** on Page 429.

GORDON ENTERPRISES

5362 No. Cahuenga • No. Hollywood, Calif.

WHAT'S NEW

in equipment, accessories, service



"T" Stop Calibrator

National Cine Equipment, Inc., New York, announces a new calibrator for scaling 8, 16 and 35 millimeter camera lenses in "T" stops ranging from 13mm to 300mm.

Unit is of the collimating type with integrating sphere mounted on a movable carriage to allow 45° center to corner ratio measurements for all focal lengths. An extremely sensitive electron photomultiplier tube and amplifier is used to obtain accurate and consistent readings. Adapters for standard mounts (Michell, Eyemo, 16mm., C-mounts, etc.), are inserted in front of the integrating sphere, giving the correct standard depth for each particular mount. Readings are taken and direct "T" scale reading is obtained by simple procedure.

Detailed information on unit is available from the company at 20 West 22nd St., N.Y. City 10, N.Y.

Sound Reader

Precision Laboratories, 300 Ocean Parkway, Brooklyn 18, N.Y. (no connection with Precision Film Laboratories, Inc., New York), announces a precision-built combination 16mm and 35mm sound reader designed



to operate in either direction for positive prints or negatives. Film rollers, machined to SMPTE standards and fitted with oilless bearings insure against surface scratch of

films. Stabilizer has needle bearings and a highly polished surface and the stabilizer drum allows accurate control while the film is drawn through the instrument set between rewinds. Price is \$185.00 FOB factory.



New "Magazine-16"

Newest addition to the "Magazine-16" group of cine cameras is the new Cine Kodak Royal announced by Eastman Kodak Company. Camera features magazine loading, Kodak-made f/1.9 Ektar lens which affords focusing from 12 inches to infinity, single frame release, and an enclosed viewfinder. The latter is adjustable precision optical type which can be set to show field covered by the standard, wide angle and telephoto lenses. Shutter speeds provided are 16, 24, or 64 frames per second. Retail price is \$192.50.

Cine-Kodak Splicer

Smart, new and easy-to-use is the Cine-Kodak Duo Splicer Outfit recently announced by Eastman Kodak Company, Rochester, N.Y. Splicer can be used with either 8mm or 16mm film. It can also be used to splice sound film.



In addition to splicer itself, outfit includes a 2-ounce bottle of Kodak film cement, an extra bottle for water, a cleaning brush, and set of screws for mounting splicer on editing board. Available at Kodak dealers and camera stores, price is \$7.50.



How she fares depends on him...

WHAT the laboratory superintendent does is highly important to star... director... and movie-goer.

For his is the responsibility of providing release prints that meet the producer's specifications... and satisfy, at the same time, the requirements of the exhibitors.

Through his picture sense... his broad knowledge of photochemistry and the mechanics of processing, his precise

control of printing density and contrast... he can bring out the best in every film, make the star's voice and presence more effective, help protect her popularity with her audience.

Critical work—this; but done all the more easily and efficiently by the laboratory superintendent and his staff, because of the quality and reliability they find in the famous family of Eastman motion picture films.

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The 70-DE Camera is an excellent example of basic Bell & Howell equipment designed to "grow" with the most ambitious amateur. The 70-DE operates at 7 precise, governor-controlled film speeds — the 204° open segment shutter giving 1/40 of a second exposure at exact sound speed (24 frames). Three-lens turret assures you of the right lens for any shot . . . instantly! Has critical focuser, rewind knob and hand crank. With 1-inch f/1.9 Filmocoted lens only, \$399.50.

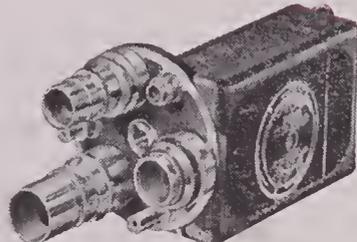


Auto-8. Versatile, easy to use — 8mm magazine loading. Swiftturn two-lens turret with matching positive-type viewfinders. Permits split-second shift of lenses for long shots or closeups. Five speeds, including true slow motion. Takes single pictures, has Selfoto lock, built-in exposure guide and audiovisual film indicator. With .5-inch f/2.5 Filmocoted lens, only \$169.50.

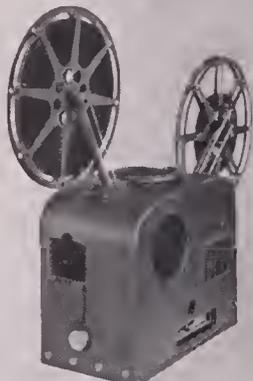
Like many hobbyists you've found that as your interest in photography grows, you "grow out of" your equipment. Bell & Howell had you in mind when they designed the photographic equipment you see on this page. For these precision made B&H products are designed to keep pace with your progress! As you demand more and more from your equipment, you'll find Bell & Howell has *anticipated* your needs . . . cameras, projectors and associated products are planned to handle the extra refinements you require.



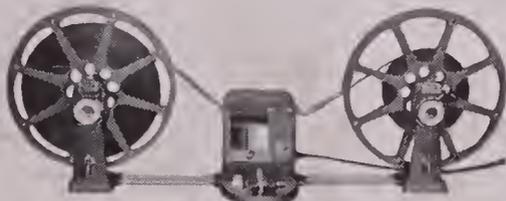
New Lens Series. This new line of Taylor Hobson Cooke and Bell & Howell lenses offers you the highest correction ever developed in the 16mm field. Sharpness and contrast are the same for all lenses regardless of focal length. Extra features include T stop calibrations for absolutely uniform exposures at any given T stop from lens to lens, uniform-step magnification, and a complete family of lenses to choose from.



Auto Master. Offers the finest combination of *versatility* and *simplicity* in the 16mm field! Quick turn of three-lens turret instantly positions lens and matching viewfinders. Magazine loading. Five operating speeds including true slow motion. Starting button lock, single picture release, exposure guide. With highly corrected 1-inch f/2.5 Filmocoted lens only, \$247.00.



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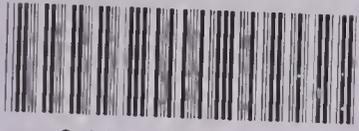
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