

Zeiss

MAGAZINE

JANUARY, 1938



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VOL. 4,
No. 1



Chasing Shadows

MARLIN E. PENICAL

THIRD PRIZE



The Gargoyle

PAUL WALL

SECOND PRIZE

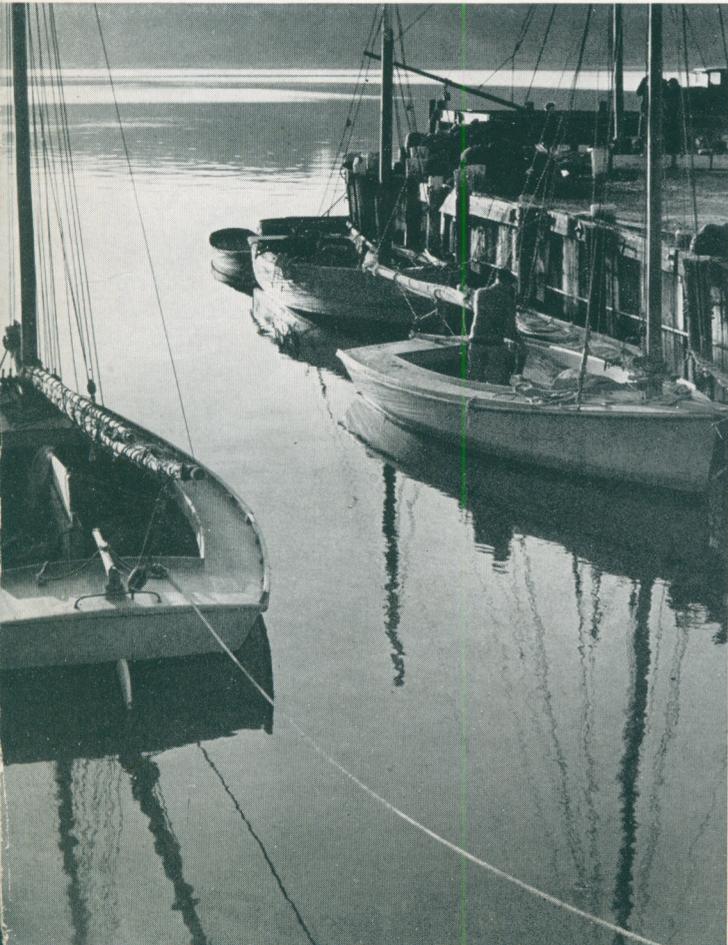
Zeiss Ikon Monthly Competition

THIS MONTH the first prize is awarded to John Thos. Hick for *Eventide*, a picture having both pictorial excellence and good technical quality enlarged from a negative exposed in his SUPER IKONTA B equipped

FIRST PRIZE

Eventide

JOHN THOS. HICK



with a ZEISS TESSAR F:2.8 8 cm Lens and the Medium Yellow G-2 Filter. Its composition demonstrates an the practical usage of the "steelyard" principle wherein balance between two objects, or masses, in a picture is obtained by contrasting a large object with a small one. By this simple method we automatically create a definite feeling of emphasis in the picture, and avoid the generally common error of having masses or objects which have an equal value in tone and size. In choosing the foreground for the subject matter Mr. Hicks has added strength to the composition by placing the skyline high within the picture space. Unity is obtained by means of the foreground reflections of masts and ropes which tend to establish a definite link between the lone boat in the foreground and the dock beyond. This is of real importance, for cohesion in the composition is necessary to avoid the confusing effect caused by scattered, irrelevant objects. Finally, the outlining of the whole scene by the late afternoon sun from a side angle adds a finishing touch to this charming picture.

Paul Wall wins second prize with *The Gargoyle*, enlarged from a negative exposed in his CONTAX fitted with a ZEISS TESSAR F:2.8 50 mm Lens with an exposure of 1/125th second at F:16. Having tremendous depth because of the striking contrast afforded by the outlining of the dark masses in foreground against a pale sky (one of the few instances where a dark sky would not be desirable since it would cause the loss of this effect), this picture gains in effectiveness because of its unusual subject and (*Please turn to page 23*)



ZEISS MAGAZINE

Devoted to Zeiss Ikon Photography

VOLUME IV

NUMBER ONE

JANUARY, 1938

Contents

THIS MONTH

... with the Fourth Annual Exhibition commencing its travels (schedule on outside back cover) this opportunity is taken to express our appreciation and thanks to the more than 2,500 users of ZEISS IKON Cameras whose courtesy and co-operation in entering slightly over 10,000 pictures made possible the great success of this outstanding exhibition. Notification to the entrant concerning each entry, as promised, is now being prepared, but the tremendous number of entries received will cause some little delay during which time we ask the further patience of the entrants.

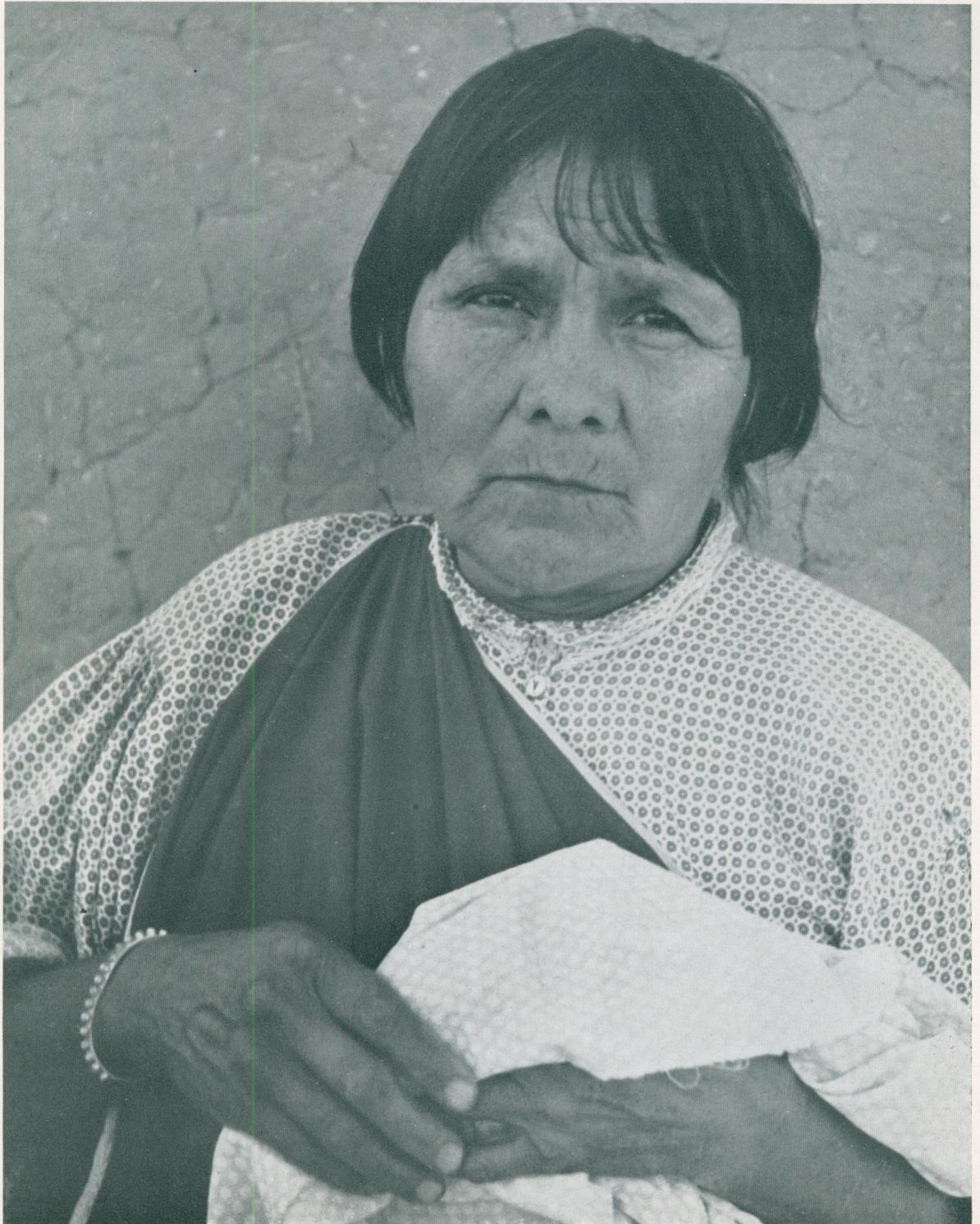
... our cover picture by W. Scholz sets the keynote for the outdoor photographer. Fast ZEISS Lenses accompanied by high-speed films have relieved those of us who make the outdoors a companion hobby to our camera from placing the camera on the shelf when the leaves fall from the trees to rest until the showers cease the following spring. And the small size and light weight of the modern ZEISS IKON Cameras with their easily operated controls, permitting their use with gloves (or even mittens), make the camera a matter-of-course adjunct to the skater, skier, and cross-country hiker.

... and every month there is the Monthly Competition. The awards and rules will be found on page 20, and the prize-winning prints this month are reproduced on page 2. There are no complications—just send us your prints (unmounted, please, and securely wrapped with required data and your name on the back of each print). Closing date the first of each month, but no matter if you miss it, for your entry will then be included in the following month's competition.

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Edited by Fenwick G. Small

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Indian Woman

MANUEL KOMROFF

FROM FOURTH ANNUAL ZEISS IKON EXHIBITION

CONTAX with ZEISS SONNAR F:1.5 50 mm Exposure of 1/125th second at F:5.6



"The eye looks off into the horizon."

OTTO JOHN GAUL, A.R.P.S.

What Can We Learn from an Exhibition?

MANUEL KOMROFF

ONE WOULD think that a picture is a picture. But no. It is not so easy. And on the other hand without complicated theories of aesthetics it should be possible to say in a few simple words some of the qualities of a picture. What do you look for? Let us walk into an exhibition and see what it has to offer us.

Once, a long time ago, the old Sultan of Turkey went to look at pictures in the Paris Louvre. He had some strange comments to make. At one of the masterpieces showing Salome with the head of John the Baptist he said: "That is a really bad artist. No head when it is cut off ever looked like that." Evidently the Sultan knew. And there was a shoemaker once who condemned a Rembrandt because he said the shoes in the

painting were no good, for they could never unlace. And so it is simple to conclude that we bring our own individual experiences with us into the exhibition hall. The engineer will glance twice at a picture of machinery and the farmer will look carefully at a study of desert sand dunes and say: "Oh what bad land!"

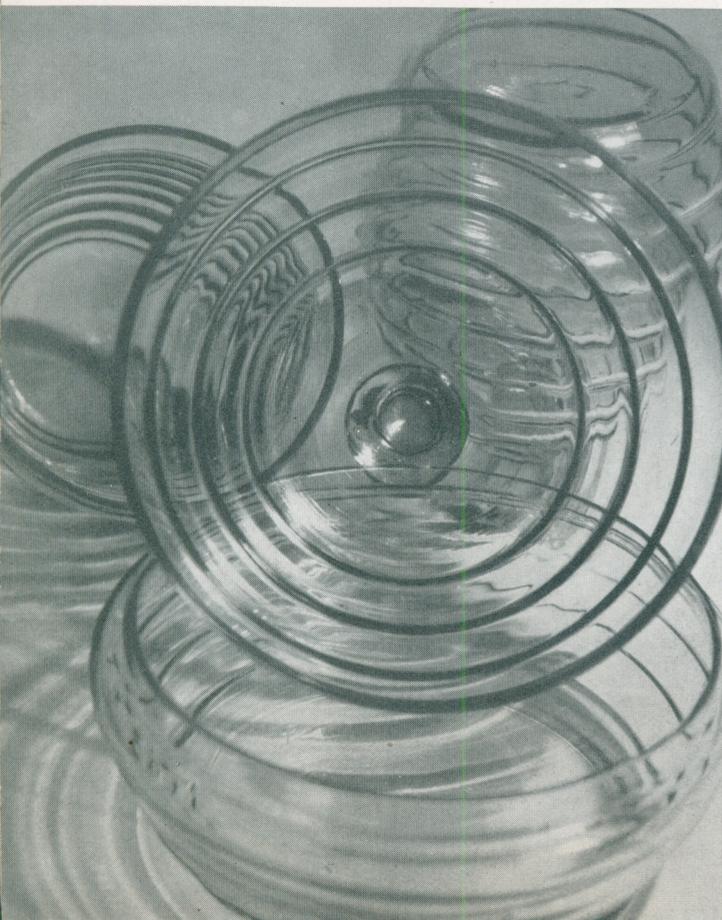
We see with eyes colored by our lives. A hungry man will admire a picture of food but he will miss the beauty of composition, tonal gradation, shadow detail and the many other qualities that the subject may present. We bring ourselves and in most cases we are unable to see very much that is not part of our experience. We return home with little seen and little learnt. But there are some who are searching for things that are

outside of the world they already know and are looking for pictorial qualities that extend the horizon of their existence. We do not have to be engineers to admire a picture of a great bridge which springs like an animal of steel from one shore to another. And besides the bridge there is something more. A dramatic moment has been caught, a black sky is filled with air, a rippling water beneath lies flat and wet, and the iron and steel, a symbol of man's conquering power, towers over everything. All this and more. There is balance between the blacks and whites and there is a design that is carefully composed and carries the attention into the picture. There is an arresting simplicity, and once the attention is caught it is held by interesting detail, by atmosphere, by a number of things. The eye wanders over a flat surface and soon, by gathering up the harmonious parts, its builds a scene that is plastic and of three dimensions. The eye looks off into the horizon and comes to rest at a place inside the picture called the point of interest. All directions lead into this point.

But there are more things to be seen. A beautiful picture or an arresting picture built of hard ugly reality may appeal to us for a number of reasons. It may hold our interest because of its extreme unusualness, a dramatic quality, or because of great familiarity. A picture of an old lady on a porch is so like a lady you probably have known. An intimacy is often established between the picture and ourselves. This intimacy is important

"A design that is carefully composed."

H. A. NEUMAN



to the viewer for understanding and for sympathy.

There are so many things to see. And why is it when you go around a second time you discover things that you overlooked? And going around a third time you still find new things to see.

The Chinese say that a single glance is worth a thousand words. Some pictures would take more than a thousand words to describe fully. And then when that description is finished there is still a good deal that has not been said. How was that picture taken? How was the finished result accomplished? Could I get a shot like that? And if I did, would it look the same or different? Can I do it with my equipment or did he use something that I do not possess? And what was the exposure and developer? And why does this man use glossy paper and another man matte? All these are technical questions and come naturally to the mind of anyone interested in photography. Here is something important that can be learnt and brought home from any first-class exhibit. Something most valuable.

There are some pictures in any show that you are certain not to like. But the jury of selection has included them for a very good reason. Do not be too quick to pass judgment. Give yourself time and see if you cannot discover something that explains the presence of these photographs. Is there a print-quality that warrants its inclusion? Is it because of the range and detail in both high-lights and shadows? Look again. It is certain to have something that you have forgotten or have never even known.

What is there to look for in an exhibition of pictures gathered together from many parts of the land? There are artistic qualities, and there are pictures that could not possibly be called artistic and yet by their sheer force, drama or candid quality are certainly entitled to belong to the photographic world. There are also pictures that belong to the realm of imagination, designs, visions, double exposures and photo-surrealism where an attempt is made to capture a sensation rather than a concrete reality. There are some pictures that are without a soul and some very simple modest prints, of no great technical virtues, that are brim full of that stuff that vaguely we call soul.

Then finally we can go around again and look for the technical things that might help us with our own pictures. There are times in every photographer's career when he will be interested in one or more problems. Exposure and development takes quite a bit of learning, when this grammar school of photography is over there is still a high-school that has some very fascinating departments. A great number of subjects may be studied and in this brief space it is possible to mention only a few. There is angle of view, distortion overcome and distortion exaggerated for effect. There



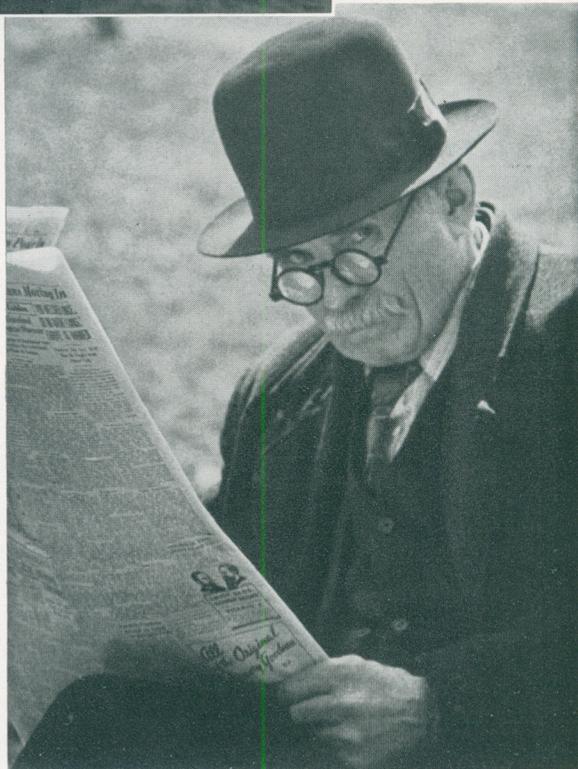
L. D. JOHNSON

"A simplicity that is arresting."

are methods of printing, dodging, diffusing and attempt to render the texture and feel of the objects photographed. There are effects in which all detail is sharp and effects where only the center of interest is sharp. There is high-key and low-key. There are subjects of great subtlety and other of dramatic poster effects. There is live skin and dead skin and lighting and over-statement and under-statement. There are effects by exaggeration and effects that attempt to record an atmosphere such as fog, rain, wind and light. There are pictures well composed and some off-balance. Some too wide, too long, badly cropped, and others that look just right. Here are 101 things but not all to be found in one quick run around.

It is only when work is hung side by side with the work of other men that you have a chance to compare, value and make up your mind about the photographers exhibiting. For those whose own pictures are included in an exhibition, there is the added advantage that they can pretty well know where they stand photographically, from comparison with the other pictures.

Still one more thing can be learnt from a show of pictures. What is the trend? There are years when machinery is in vogue and years when lots of nudes are shown. There are arty years when soft sentimental prints are exhibited. A year or so ago the candid school had the upper hand. Also, industrial photographs were once numerous. But today there are changes going on. There is less machinery and a shade less of stark candid pictures being shown. But what is the photographic direction? That one can only tell by going around once more and investigating carefully.



These camera bugs

G. S. SIMONSKI

"A single glance is worth a thousand words."

In every well edited exhibition a balance and variety of interest has been presented. Every school of photographic thought is represented. It requires time and intelligent study to make up your mind about so many photographic problems, but now that we have pointed to a few of the things for which one may look, it seems only necessary to seek and ye shall find.

The Story Behind The Picture

BOB LEAVITT, A.R.P.S.

ONE OF the very few straight pictorials I have ever tried, *The Phoenix* is expressive, and, I think, impressive as well. The picture symbolizes the *Phoenix* . . . the resurrection . . . the bright and new rising from dust and ash and junk. It shows the eternal cycle of man and man's handiwork—tearing down and building anew. But beneath it all there is a grimmer aspect. Here is junk for a faraway land, junk that there may be fabricated into war materials that might, emblematically, be destined some day to topple the tall building behind it. In brief, here is a picture that forcefully tells a simple story.

The Phoenix was made along the lower East River in New York City, and its making required some patience. One day my travels took me to the docks where junk barges awaited transshipment. Only moderately high along the side of the dock this day, the barges were high enough so that I caught the idea for the picture. But it was late in the day, and by the time the barges were carried high enough by the incoming tide to catch the picture as it is here portrayed, the sun was too low. So I had to go and return another time for the picture. On the next trip both the sun and tide were right, but the water was running swiftly causing motion in the barges. The shutter speed with a G-4 Filter for proper correction and a diaphragm setting of F:22 to give the depth to have both the foreground and background sharp was 1/5 second. To back away, open the diaphragm wider, and get both sharpness throughout and a faster shutter speed would cause the loss of the right camera angle as well as the inclusion of some of the roofs of lower adjoining buildings. And 1/5 second would produce too much movement in the 6x6 cm negative to allow very much enlargement. Better come back again. And so the

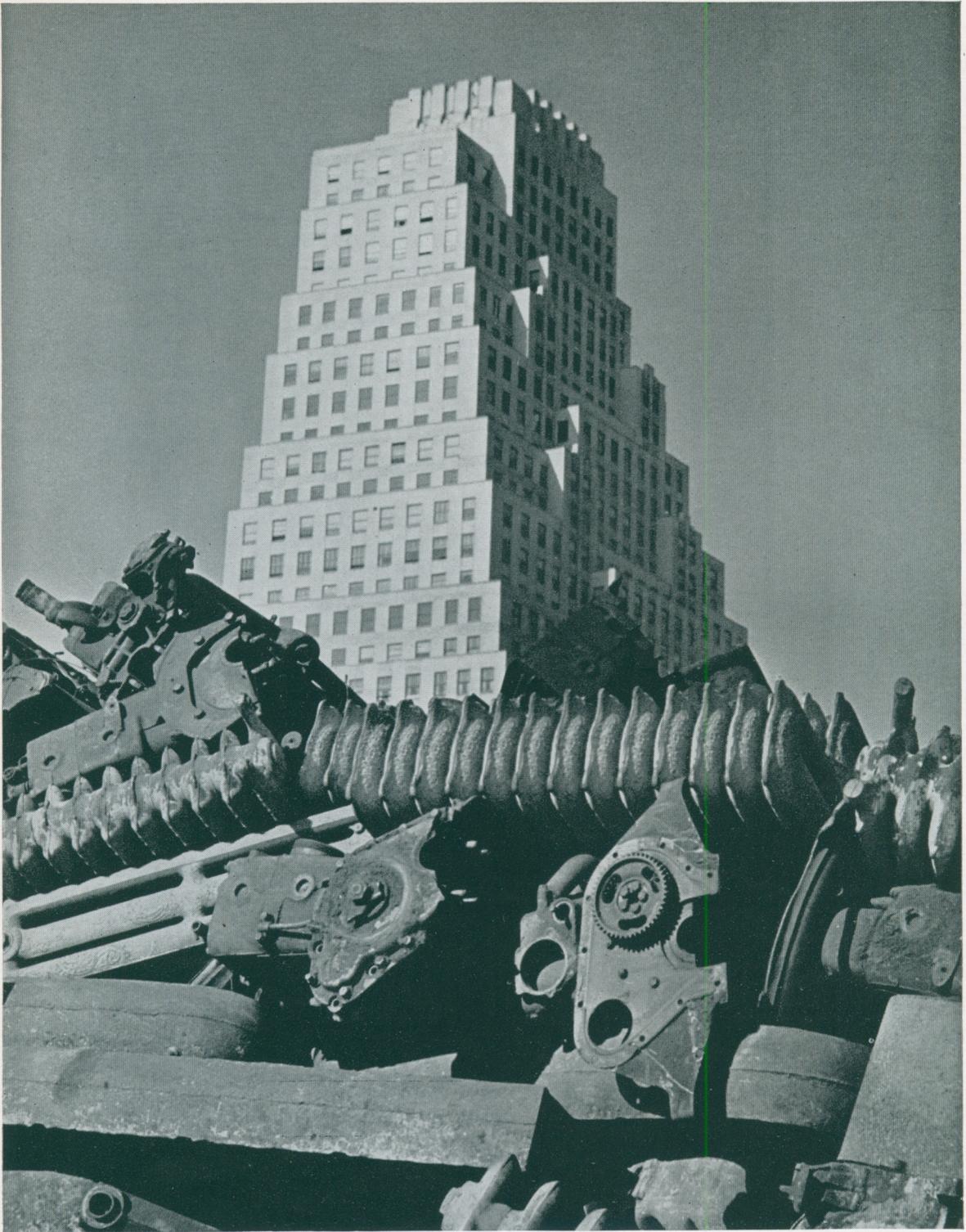
third trip saw the picture made.

The Phoenix was made on Superpan Film with an IKOFLEX and ZEISS TESSAR F:3.5 7.5 cm Lens with development in Agfa B-17 Borax Developer. The negative was thin, particularly in the foreground, and the exposure was a compromise so as to register the junk sufficiently yet not block the sky. If I were to try again, I should most likely use a fast ortho film such as Super Plenachrome and a dark yellow G-3 Filter, then develop for greater softness in Agfa 101 Borax Developer, a normally soft-working developer. This would greatly simplify the matter of an overexposed sky.

Perhaps you would prefer a cloud somewhere in the picture? If so, it would have to be a little cloud, symmetrically placed directly at the top of the building, fluffing out slightly above the top and dropping a bit below the tower. I prefer the picture as it is—the simpler the better—but we shan't argue. I doubt though if I would have had the patience to wait for such a daintily symmetrical little cloud, and I must admit that I am probably too clumsy and too fretful to build my own darkroom cloud into the composition.

In offering this picture for your study, I might make one chiding admonition. While on the docks I saw plenty of cameras, but not one of those behind the lens saw this simple picture story that to me fairly screamed for recognition. In fact, several sniffed disdainfully when I suggested it. Honest confession, however, makes me admit that I miss many pictures myself, so don't take me too seriously. But do try to see more and to realize the significance of what you do see.

Alas, for all the merit I, in my whimsical way, think I see in *The Phoenix*, for it has always been a salon reject. But as a photographer's glossy print labeled *Junk for Japan* it does quite well.



The Phoenix

BOB LEAVITT, A.R.P.S.

FROM FOURTH ANNUAL ZEISS IKON EXHIBITION

IKOFLEX with ZEISS TESSAR F:3.5 7.5 cm Exposure of 1/5 second at F:22 with G-4 Filter

Painting With Light

LEO NEJELSKI

YOU'VE seen them. They are numbered in the thousands. The "snappers" I mean. They are the men and women who rush about snap, snap, snapping this . . . then snap, snap, snapping that . . . and never knowing but always hoping that one negative out of the bunch will be worth enlarging.

Nothing much that is worthwhile ever happened by chance. No painter ever created a masterpiece accidentally. No composer ever wrote a time-enduring symphony merely by writing a number of them.

But why do we talk about painting and music? Because photography can also be an art. Without indulging in aesthetics, the most any art can accomplish is to transmit a thought, or an emotion, to the person seeing, or hearing, it. You and your camera can actually paint with light and transmit ideas and emotions.

Out of all nature, the painter selects just the objects and colors he wants to include in his composition. The photographer can do likewise (leaving color photography out of this discussion) by selecting the angle, or perspective, by using filters to accentuate contrasts, or subdue them, and by narrowing the field in focus, or widening it. True, the photographer cannot eliminate all of the things from a composition that he might want to eliminate, but he can eliminate some within the limitations given above.

Like the painter, the photographer must know his medium. He must know his camera and its accessories so completely and intimately that when he views a scene and decides upon the idea, or emotion, he wants to express, he does not find it necessary to consult instruction books or figure so long that the light has changed, the clouds moved,

Whitecaps and Clouds



or something else has happened to change the picture.

Too many embryo photographers become discouraged too soon. A dear friend of mine is a good example. He buys many photographs for commercial purposes. He has an excellent sense of composition and remarkably good taste. For identification let's name him Jon.

Jon had always had a hankering for picture taking. After viewing an exhibition he bought a fine, expensive miniature camera and made ready to satisfy the urge. Two weeks later he sold the camera for less than one-fourth its value.

Press Jon for the reason and he will say, "I guess I'm not as good a photographer as I thought I was. The camera was too complicated. Then, too, I burned up one exposure and didn't get anything at all on the next. I guess I'm getting too old to learn new tricks."

Jon's only real shortcoming is that he is like many millions of others who want to become expert in anything within the span of a week. Many a painter created his masterpiece only after years and years of intelligent trying and trying. Yet Jon wanted to create masterpieces even before he learned how to use his tools.

Only after he has learned his camera and accessories (which takes months and years) and after he has learned the simple rudiments of arranging lights and

Asleep



shadows so that they form a pleasing pattern . . . only then does a photographer arrive at the point where he can begin to paint with light.

Discouraging? Not for those who have an eye for perfection and a vision of future enjoyment that will more than repay the effort. They will get more pure fun out of their cameras than they ever dreamed possible.

I do not offer the pictures reproduced here as masterpieces. In an effort to be helpful, however, I will try to set down the thought processes that were involved in each picture. This reasoning may prove a bit helpful in watching the idea form and comparing it to the final achievement. Whether the pictures are good, or not so good, does not matter.

Up In The Air: Lee is seven. At various times during the year, I make exposures of him doing, or enjoying, the things that mean the most to him at the moment. This was taken while on our vacation this summer. He enjoyed the slide so much! There were heavy clouds in the sky, so I clamped on a medium red R-10 filter. I sighted my SUPER IKONTA B from the bottom of the slide. The slide itself was too emphatic. I wanted to capture Lee's enjoyment, not the slide and the soles of his shoes. I stepped to the side and knelt on the sand. Ah! Now I included the ladder. That helped to fix the idea that he had climbed up and that he was in the air. But it still looked static, without movement. I asked him to throw up his hands and start sliding. He did. I snapped.

Asleep: I came upon Lee as he dozed in the hammock. He seemed so relaxed and so soft! The pattern of the hammock was interesting. The heavy shadows of trees and cabin in the back- (Please turn to page 22)

Building Sand Castles



Asleep



Up In The Air

All photographs by LEO NEJELSKI

Ready to Parade



From the Fourth Annual



After the Ball
Mama Shows How

VIC KIFFE
PAUL WALL



Rough Going

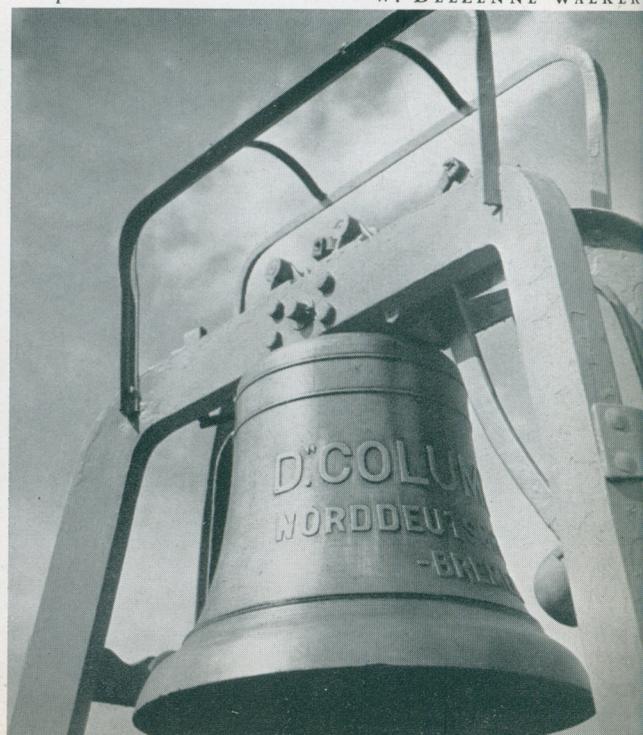
JOHN THOS. HICK



Mt. Hood

HAROLD W. BROOKS

Skip's Bell
W. DELZENNE WALKER



Zeiss Ikon EXHIBITION



Low Tide

FRED C. JENISON

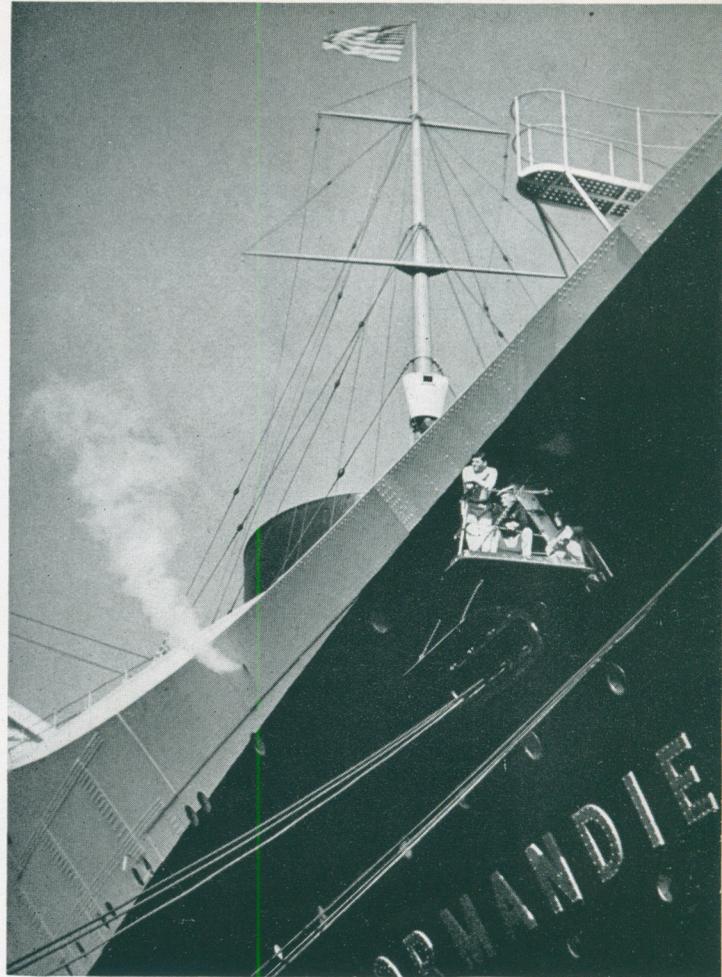


Baiting the Hook

ALBERT R. LINDGREN

The Lamp Polisher

OWEN M. SMITH



Normandie

JAMES R. DENYSE

Navajo Goats

LEE ARNOLD



Pictorial Portraiture

E. PAUL BELL

(Continued from the December Issue)

THE THIRD suggestion—an important one to me—is that the portraitist have an inexpensive picture taken of himself at a local studio. In fact, it is an excellent idea (not associated with vanity in this instance) to have this done several times. There is no better way to so quickly sense the importance of the psychological relationship between the subject and the artist. The sitting may be well-conducted in that the artist may make you feel entirely at ease and stimulate your interest to the extent that you will lack camera shyness. On the other hand, it is very possible that you will at once begin to feel the tension which you yourself, as

photographer, may have caused others to feel. The sittings concluded, line up all the proofs in a secluded room and study them, saying to yourself: "What did I think when this was exposed? . . . "Was I at ease when that was exposed?" I am willing to wager that in most instances you were very conscious of the fact that a picture was being taken, that you were being posed, that someone was looking at you through a lens, that for many minutes at a time you were left in a certain posture wondering what was going to happen next, and, finally, that you were wondering whether or not the pictures would do you justice.

An object lesson of this sort should bring home very forcibly the realization that too many photographers conduct a sitting from a mechanical and selfish viewpoint, that their concern is chiefly with approved and efficient methods for making a series of properly-timed negatives, that they haven't a single sincere thought for the feelings of the sitter, and that they proceed without making an intelligent effort to govern the situation through a wise and understanding appreciation of the subject's thoughts. A circumstance that will never foster the impulse to create an impression upon a piece of paper which will be far stronger than the mere recording of an image by a gelatine and silver-salt emulsion. If the photographer cannot find this impulse within himself—and use it, he will never make a real *picture* . . . a picture that will have genuine human-interest appeal, that will stimulate an emotional response on the part of the observer, that will give the feeling that the subject was a living, thinking, breathing person, and that will reflect by arrangement and mood the thoughts and impulses that give a portrait significance.

Every one of us is born with imagination. Neglected, it becomes chronically lethargic; it thrives and grows with use and application. An artist, thinking always in terms of pictures,



Gail Gardner

E. PAUL BELL

Abrasion & Powder Tone Print



Danseuse Vanya Karanova E. PAUL BELL
Abrasion & Powder Tone Print

will let his imagination be his guide. Pictures have a peculiar way of happening by themselves for those who, with imagination, see them as they come. Every person is instinctively a lover of beauty. We see colors differently, and shapes abound us on all sides. Vision is surely more than eyesight. When through our mind we bring our imagination to our vision, thinking directly and simply, we have a treasure and a wealth upon which we can draw for glorious results.

The fourth suggestion—the purpose for which one takes portraits—is almost obvious without being mentioned. If the results are incidental, if they are merely the outcome of pecuniary interest or haphazard effort, there is no need to look further for the cause of indifferent pictorial results. But if, as with any true artist, there is a desire to recreate beauty or truth so as to display significantly emotion and thought, if there is a desire that those who observe will recognize the effort as genuine and effectual, then that desire will be preponderant and compelling and will not be denied. A bad or unsatisfactory result is not significant, because another effort will be made and these efforts will be continued until a definite purpose has been achieved.

Any face from anywhere in the world can be a subject. To one keenly responsive of the attributes of interest and human appeal it may possess, any face will present an opportunity to create an interesting repre-



Novelist Eleanor Chase (Mrs. Maurice Fatio)
Abrasion & Powder Tone Print

sentation of a human being of flesh and blood and mood. An artist, learning to understand and express in visual terms the personality and character of those whom he pictures, has indeed learned through his medium to recreate emotion and thus, in effect, to recreate himself! The incomparable Mortensen has in his new book, *The Model*, dealt interestingly with this very point.

The pictures reproduced with this article were taken with two cameras which I have found wonderfully adapted to my methods. Both the CONTAX and the SUPER IKONTA B are an intimate type of camera, and I find that their unobtrusive size, as well as their wonderful adaptability to almost any situation and the brilliancy, flatness of field, and wonderful definition of their ZEISS LENSES, makes them tools which lend themselves admirably to portraiture. More and more, the small camera will find its way into professional and commercial usage. The day has passed when technicians may claim outstanding advantages for the larger negative images. While there is no doubt that, in some instances, the larger negative image suits certain purposes better than the small one, there is no question but that the small cameras, given modern emulsions and careful technique, perform functions which are far beyond the capacity of any view camera.

THE END



Desperate Pictures!

PAT TERRY*

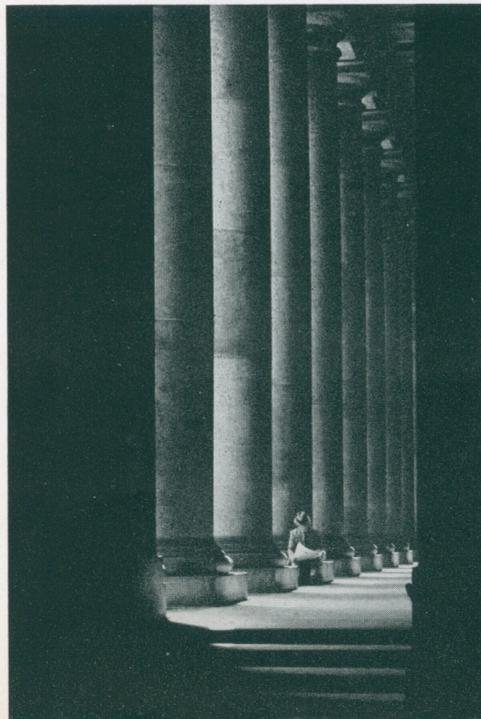
(Continued from the December Issue)

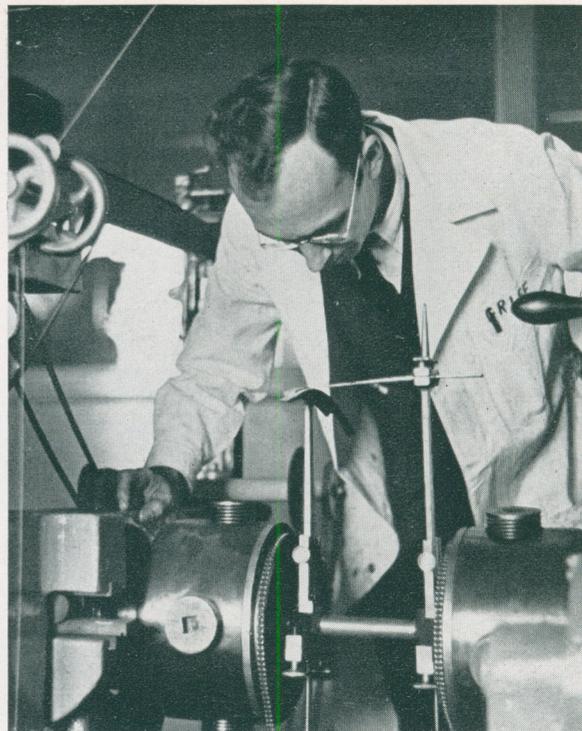
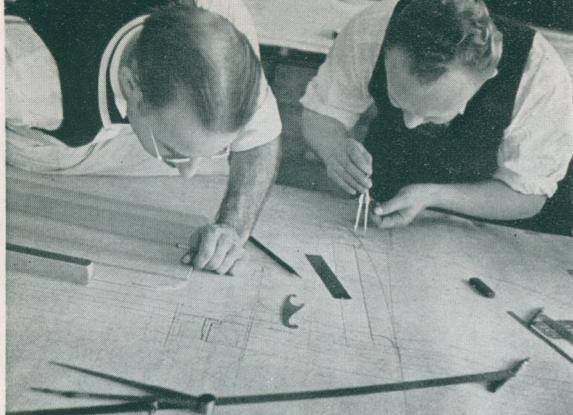
THERE ARE, I suppose, young people just out of high school or college, who have a highly acute sense of curiosity making up for lack of background or experience. That curiosity will enable them to get the anxious feeling about a photo-reporting assignment that will make them ferret out the picture having dramatic, humorous, or human-interest implication. I say, I suppose there are, for it has been my misfortune to find that young people — no matter how brilliantly educated — generally fail as candid-camera workers. In the words of one newspaper photographer of my acquaintance, "They take sharp pictures, but they don't know what it is all about."

Do I sound discouraging? I don't mean to be. I only be-

*Formerly Chief Photo Reporter, *News Week*; Freelance Photographer for Newspapers, Magazines, and Agencies.

lieve that what a good photo-reporter must know is only ten per cent photography, the other ninety per cent being the full meaning of that at which he is looking. Have you a background of music? Do you dance well? Then you will get better pictures of a musical comedy than someone who lacks a sense of rhythm and





All Photographs by PAT TERRY with courtesy of NEWSPHOTOS

timing. Again, life experience is helping you, for you will know what is significant in the dance, while your sense of timing will enable you to snap your shutter at the psychological moment.

A desperate professional on assignment can become very rude at times. He will push you out of his way . . . he will fight with his fists, if necessary, to gain admittance where he is not wanted . . . he will reach down in his pocket for the high price of a speedy telephoto lens, not because he is a gadget hound, but because he is *desperate* . . . he will go without sleep, night after night, developing a technique for getting something out of grossly underexposed negatives . . . all this not because he is rude, or wants to show off before his fellow professionals, or doesn't know the rudiments of correct exposure. He is *desperate*. He must get up close to that unapproachable subject—or else. And if he can't, regardless of the motion of the subject or the lighting, he must get a good-size printable image on the negative—or else. And finally, working under hopeless lighting conditions where the average professional or advanced amateur would pack up and go home and only the veriest beginner would dare rush in, he must produce good printable negatives no matter what the motion of the subject. Do you wonder that he is *desperate*?

But why ZEISS IKON Cameras? For, as I have said, they are used to-day by most of the professional photo-

reporters. There are many fine cameras on the market, also many brilliant, sharp-cutting lenses—but they fall short in one or many respects when it comes to handling professional news assignments. Such cameras as the CONTAX with its wide choice of fine ZEISS Lenses, the SUPER IKONTA B, and the IDEAL B or the JUWEL A, in my opinion, are unequalled in their respective applications by any camera made to-day. Precision-built with a durability that will last a lifetime, their lenses are the most highly perfected available. Though I grant that other cameras have virtues, I prefer to use instruments with such precision coordination that they fulfill every requirement and demand of the press and journalistic photographer.

Lest I be accused of talking a lot and saying nothing, I add a few hints which may assist you in getting better pictures. First, and this is repetition, don't take pictures of unfamiliar things. It is an easy matter to spend an evening reading all about an unfamiliar subject so that you will know all its pictureable aspects. Don't use an exposure meter unless you have to do so. By that, I suggest that you learn to judge the light as you would a good composition and reserve the meter for very difficult lightings. Then your mind will be concerned solely with the picture. Old timers used to say, "Shoot a twenty-fifth at F:16 with the sun at your back, and you will always get a good picture." My amendment is one-hundredth at F:8—the same (*Please turn to page 22*)

Practical Photomicrographic Equipment

WELTON J. CROOK*

FROM TIME to time there appear, in the photographic literature, articles devoted to photomicrography. Many of these articles deal with various "hay wire" set-ups composed of box cameras, cigar boxes, and other contraptions attached to cheap children's microscopes. Such arrangements may afford pleasurable entertainment for the amateur, but cannot fill the needs for the serious worker. There is no substitute for adequate and high class optical apparatus if acceptable results are to be obtained.

The writer is a metallurgical engineer who was faced with the problem of selecting apparatus for the microscopy and photomicrography of a large number of petrographic thin sections in connection with the study of steel-making slags. In this article it is proposed to describe the apparatus selected, and to discuss a few points in connection with its operation.

The apparatus chosen consisted of a ZEISS "L" stand, a pancratic condenser, and a CONTAX PHOKU attachment. Instead of the nicol polarizer and analyzer commonly used for petrographic work, a BERNAUER Filter Polarizer and Filter Analyzer were substituted. The CONTAX was supplied with a Plate Back Adapter so that single negatives could be exposed and developed. The complete apparatus is shown herewith.

The CONTAX Plate Back Adapter is found to be particularly useful. In our laboratory we stock the usual commercial types of emulsions. A piece of 4"x5" cut film will afford eight negatives for the plate adapter. The emulsion can be varied to suit the particular subject in hand, and trial exposures can be made with slight expense. In cases where a series of photographs are desired of the one thin section, or where a series of slides having about the same thickness, density, and

*Professor of Metallurgy; Stanford University, California.

Slag No. 101: 1800x; Objective 90x (Oil immersion); 70 second exposure through Wratten "B" Filter on Commercial Panchromatic Cut Film developed in D-11 for 5 minutes at 65° F. Enlargement 4x from 450x original negative; reproduction $\frac{5}{8}$ size of enlargement.

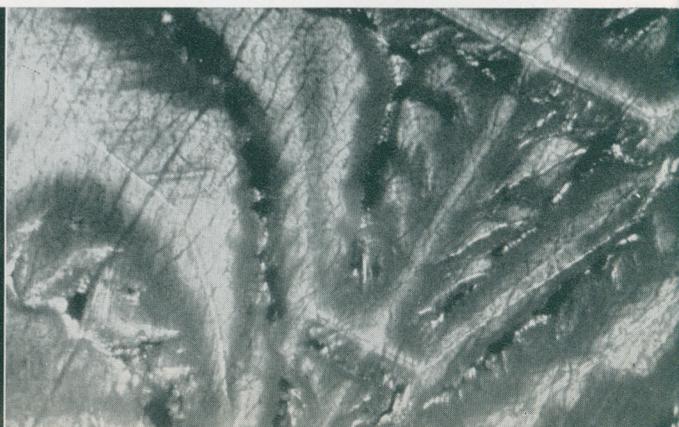
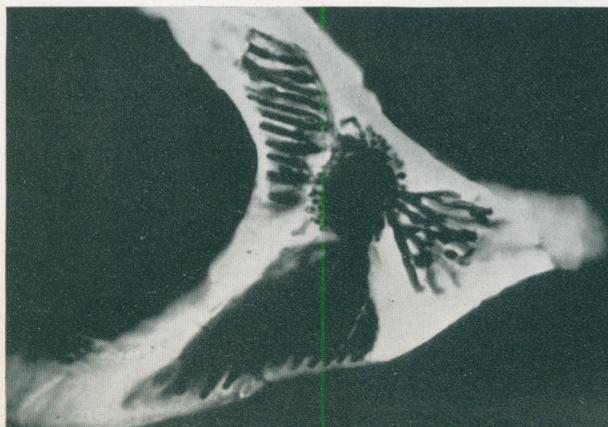
color are to be photographed, the usual CONTAX back and 35 mm film may be used with much time saved by developing the 36-exposure strip by tank methods. However, the ordinary laboratory does not stock many varieties of 35 mm film, and the operator is limited in his choice of emulsions. For general work, it is believed that the plate back adapter is a necessity.

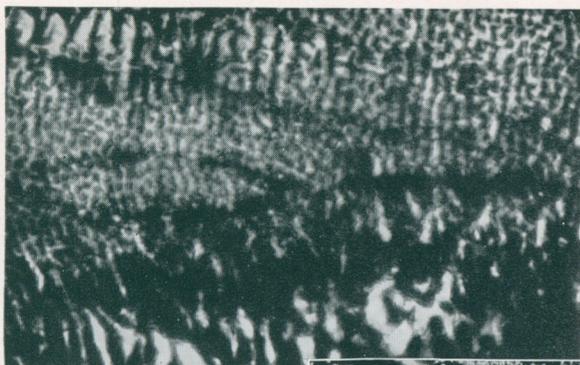
Any one who has had experience with the adjustment of the lighting in photomicrography, using the older types of Abbe condenser illumination, will instantly appreciate the facility with which adjustment can be made with the pancratic condenser. To the writer, it is one of the greatest advances that has been made in microscopy for many years. By the simple operation of setting the index to the N.A. of the particular objective used, perfect illumination is secured.

With the expenditure of a few dollars for a BERNAUER Filter Polarizer and a Filter Analyzer, several hundred dollars may be saved by the elimination of nicol prisms of equivalent light transmission capacity. The results obtained by this substitution seem to be entirely satisfactory for ordinary petrographic work. The writer has not had sufficient experience to state whether or not the color values obtained would satisfy the most critical workers. The filters have two great advantages: first, low cost and, second, short exposures in photomicrography. Using the filters with a daylight filter in the pancratic condenser, an exposure of only 20 to 30 seconds is required with the 10X objective.

The general procedure is to produce a small negative, 25 x 38 mm., with the aid of the CONTAX Plate Back. After processing, these negatives are enlarged exactly four times in a MAGNIPHOT enlarger or its equivalent. It is our opinion that there can be no substitute for the proper enlarging apparatus. Many tests have been

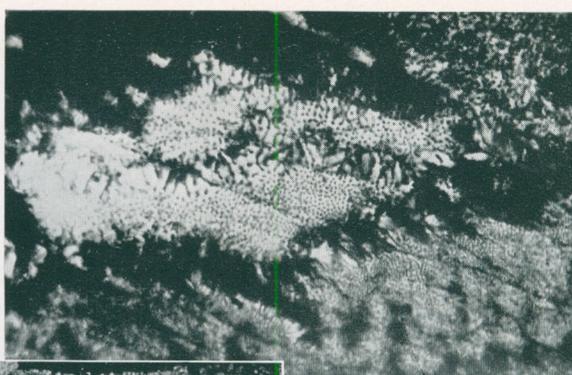
Slag No. 101: 200x; Objective 10x; 10 second exposure through Wratten "A" Filter on Commercial Panchromatic Cut Film developed in D-11 for 5 minutes at 65° F. Enlargement 4x from 50x original negative; reproduction 65% size of enlargement.





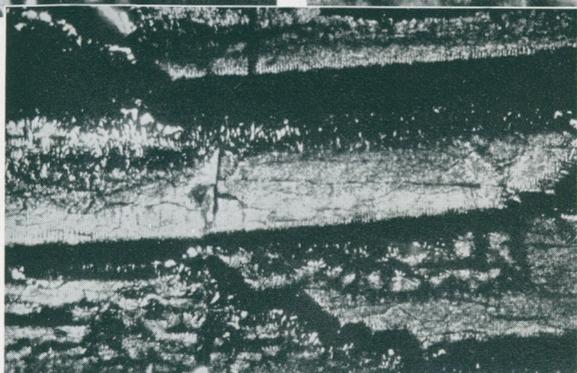
UPPER LEFT

Slag No. 100: 1200x; Objective 60x; 70 second exposure through Wratten "B" Filter on Commercial Panchromatic Cut Film developed in D-11 for 5 minutes at 65° F. Enlargement 4x from 300x original negative; reproduction 53% size of enlargement.



UPPER RIGHT

Slag No. 100: 400x; Objective 20x; 25 second exposure through Wratten "B" Filter on Commercial Panchromatic Cut Film developed in D-72 (1:2) for 5 minutes at 65° F. Enlargement 4x from 100x original negative; reproduction 53% of enlargement.

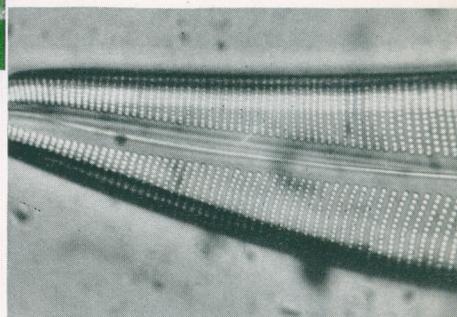


Slag No. 100: 200x; Objective 10x; 10 second exposure through Wratten "A" Filter on Commercial Panchromatic Cut Film developed in D-72 (1:2) for 5 minutes at 65° F. Enlargement 4x from 50x original negative; reproduction 53% of enlargement.

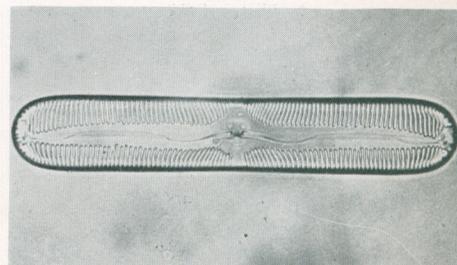
**Photomicrographs
by**

WELTON J. CROOK

Diatom. 1800x; Objective 90x (Oil immersion); 30 second exposure through Wratten "B" Filter on Commercial Panchromatic Cut Film developed in D-11 for 5 minutes at 65° F. Enlargement 4x from 450x original negative; reproduction 47% size of enlargement.



Diatom. 400x; Objective 20x; 4 second exposure through Wratten "B" Filter on Commercial Panchromatic Cut Film developed in D-11 for 5 minutes at 65° F. Enlargement 4x from 100x original negative; reproduction 75% size of enlargement.



Mineral Thin Section: 200x; Objective 10x; 25 second exposure with Zeiss Daylight Filter and Bernauer Polarizer and Bernauer Analyser on Commercial Panchromatic Cut Film developed in D-11 for 5 minutes at 65° F. Enlargement 4x from 50x original negative; reproduction 47% size of enlargement.

made in which the small negatives were enlarged in an ordinary large-size commercial enlarger. Satisfactory results were not obtained. The ocular in the CONTAX PHOKU attachment used is such that a magnification of 5x is obtained. In other words, using a 10x objective, the negative will have a magnification of 50x. This negative is then enlarged 4x, giving a final enlargement of 200x. Corresponding magnifications are obtained with other objectives. For instance, with the 90x oil immersion objective, a final magnification of 1800x results. The standard enlargement of 4x from negative to final print has been adopted because it is found that even with comparatively coarse grained emulsions, such as Eastman Commercial panchromatic cut film, developed in D-11, the enlargement of 4x does not result in objectionable grain in the final print.

Objection may be raised to the effect that this method of calculating the final enlargement is simply "empty" enlargement. In order to consider this matter we must adopt some standard of comparison. Let us choose a procedure which has been accepted in metal technology; that is, the micrometallograph. In securing a photomicrograph at 1000x, a 60x (N.A. 0.95) objective and No. III Homal would be used. The camera extension would be about 14 cm.

Let us now consider the production of a thin section micrograph at 1000x, following the procedure with which this article is concerned. Here we would again use a 60x objective, but would replace the Homal with the 5x objective in the PHOKU attachment. Our negative would have an initial magnification of 300x. The negative would be placed in the enlarger and enlarged 3-1/3x to give a final print at 1000x. In both cases we have obeyed the dictum that "magnification should not exceed 500 to 1000 times to N.A. of the aperture." It matters little if we replace the Homal of the metallo- (Please turn to following page)



PRACTICAL PHOTOMICROGRAPHIC EQUIPMENT

(Continued from preceding page) graph with two steps in magnification, the 5x Phöku objective and the enlargement of 3-1/3x.

A word may be said in regard to light filters. A number of tests have been made with various thin section slides, using both Wratten "A" and "B" filters. When using Commercial panchromatic cut film, there is little choice in the final prints. Although considerably shorter exposures are required with the "A" filter, it is found to be much easier to secure sharp focus with the "B" filter for the simple reason that we can see better in green than in red light.

It is not believed that any advantage can be gained by using fine grain developers of the paraphenylenediamine type, because such developers give negatives lacking the crispness and contrast desirable in photomicrography. There is no reason, however, why some finer grained 35 mm films cannot be used with advantage, especially if developed in, for instance, the

D-76 Borax Developer, or similar MQ—Borax type developer.

As has previously been mentioned, the writer's interest in the micrography of petrographic thin sections lies in the field of metallurgical slags. Examples of these have been included in the article for purposes of illustration. It has been found, however, that it seems to be customary to include diatom photographs in nearly all articles on microscopy. The diatom photographs included herewith are the first ever taken by the writer and they are exhibited, with some trepidation, to those who are expert in this field.

In conclusion it may be said that entire satisfaction has been experienced with the equipment described, and its use is recommended to those who desire to obtain acceptable results with the least effort and expenditure of time.

(It is a pleasure to present to the readers of ZEISS MAGAZINE the efficient as well as practical photomicrographic equipment used by Professor Crooke. The photograph of the apparatus referred to in his article will be found on page 23—Ed.)

The Zeiss Ikon Competition

MONTHLY AWARDS

The selection of the winner in Zeiss Ikon Cameras and Accessories to the following list values;

First Prize: \$40.00 Second Prize: \$20.00 Third Prize: \$10.00

Each prize winner will also receive a certificate of award and label for attachment to the back of his own duplicate print and the winning prints will be reproduced in Zeiss Magazine.

GRAND PRIZE

Every six months the prize winning pictures in each class will be judged in a special competition; the winners in this competition will be awarded an additional prize equal to the previous award.

The awards **MUST** be ordered and delivered through a recognized Zeiss Ikon Dealer.

COMPETITION RULES

- 1. ELIGIBLE:** Any photograph taken by the entrant with a current model Zeiss Ikon Camera and Carl Zeiss Lens as shown in current Carl Zeiss, Inc., advertising literature.
- 2. PRINT SIZE:** Must be **unmounted** and not smaller than 4" x 6" nor larger than 12" x 16". Within the size limitations mentioned, entries may be either contact prints or enlargements.
- 3. DATA:** The following data must be written in ink on the back of each print entered: name and address of entrant; model and serial number (engraved inside) of camera; name, serial number, maximum aperture and focal length of lens; and the diaphragm setting, exposure speed, lighting, and filter (if any) used.
- 4. CLOSING DATE:** Prints received later than the first of the month preceding publication, will be held for the following month's competition.
- 5. LIMITATION:** No entrant may submit more than six prints in any one month.
- 6. RELEASE:** Entrants receiving an award must on request, if any persons appear in print, secure and furnish us with release on our forms signed by these persons.
- 7. PRIZE AWARD:** Entrants receiving an award may retain same as credit for not more than one year but must inform us of their intent to do so, stating the name and address of their dealer, within ten days of receipt of notification of the award.
- 8. RETURN OF PRINTS:** Due care will be taken of all prints entered and prints not receiving an award will be returned, but Carl Zeiss, Inc., cannot be responsible for any loss or damage to prints while in transit. Prints receiving an award and the negatives from which they are made become the property of Carl Zeiss, Inc., for the purpose of advertising Zeiss Ikon and Carl Zeiss equipment throughout the world.
- 9. ENLARGED NEGATIVE:** An enlarged 5" x 7" copy of the original negative, unless smaller size is requested, will be furnished to entrants receiving an award. Prints made from such an enlarged negative or from the original negative, may be entered in the maker's name only in any non-commercial photographic salon or exhibition and the maker may grant permission to those in charge of the salon to reproduce same in the salon catalog or any recognized independent photographic magazine.

Entries Should Be Sent to Carl Zeiss, Inc., 485 Fifth Avenue, New York, N. Y.

Notes & News

PACKING & IDENTIFYING YOUR PRINTS

A great deal of care is taken to make sure that prints entered in our various competitions and exhibitions are not damaged while they are in our possession, as well as in seeing that they are securely wrapped when returned to the entrant. We frequently receive prints in damaged condition, and in most cases this damage is not the fault of the post office but is the fault of the entrant because of poor wrapping and insecure protection. Attention to the following suggestions will not only do much to prevent the possibility of damage but will also aid us in identifying your prints and making sure that they are returned in good condition.

1. All prints should be sent, preferably unmounted, in a strong Kraft or Manila envelope, or similar wrapping, with the prints strapped by tape to one of two pieces of cellular strawboard one inch larger on all sides than the largest prints and with the cellular strawboard so placed that the corrugations in the central reinforcing run at right angles to each other.
2. The name and address of the entrant with such other information as may be required should be placed on the back of each print entered.
3. Statement as to the purpose for which prints are sent to us—such as, "FOR MONTHLY COMPETITION," "FOR FOURTH ANNUAL EXHIBITION," etc.—should be placed on the back of each print entered.
4. If prints are not received by the entrant on return in good condition, the wrapping and reinforcing should be saved, and the extent of the damage be reported to us immediately.
5. If acknowledgment of the entry is not received within a reasonable time, call the entry to our attention immediately—do not wait for the end of the particular competition or exhibition for which they were entered.
6. In writing to us concerning prints which have been acknowledged, please quote the reference (closing date in connection with the monthly competition) given on the acknowledgment.

Adherence to these suggestions will not only assure your prints arriving in good condition, being given the proper attention in our office, and being returned to you in good condition, but will also expedite any inquiries you may make concerning them while in our office.

INDUSTRIAL & TECHNICAL PHOTOGRAPHY

In connection with our exhibitions, displays, ZEISS MAGAZINE, and other publications, we are always interested in learning of the application of ZEISS IKON Cameras—with special reference to the CONTAX, NETTAX, SUPER NETTEL, and CONTAFLEX—in the various fields of science and industry. Whether a special or unique application, or merely applied in the practice of your business or profession, let us know what you are doing, for it will be of great interest to the many other users of our cameras. If you are faced with any technical problem, let us know what it is, and we may be able to be of some help to you.

THE FOURTH ANNUAL EXHIBITION

With the completion of the showing of the Annual Exhibition in New York this month, the Exhibition commences its travels according to the schedule given on the outside back cover of the magazine this month. In all the cities where it is shown, the Exhibition will be open from 10 a.m. to 9 p.m. with the exception of Saturdays when it will be open from

10 a.m. to 5:30 p.m. There is no charge for admission, and every one, whether interested in photography or only interested in viewing fine pictures, is cordially invited to visit it as often as wished to review the pictures. Representatives of CARL ZEISS, Inc., will accompany the Exhibition on its travels to answer questions of visitors concerning the pictures and demonstrate the various cameras with which they were taken. Do not miss the opportunity to see this outstanding Exhibition when it is in your locality. It includes many of the best pictures of the past year—pictorial, commercial, industrial, theatrical, press, color, candid, scientific, medical, and many of the other uses and applications of photography in American life and industry—by some of the best American photographers with no restriction as to camera size or type.

NEW FILTER DESIGNATIONS

As a result of simplification of the means of indicating the various ZEISS IKON Filters, the following filters have been assigned the new designations as indicated.

FILTER	OLD No.	NEW No.
Sky Filter	VG	VG-6
Blue	B-5	B-40
Green	GR-10	GR-50
Yellow Green	GR-5	GR-55

None of the designations for the other ZEISS IKON Filters have been changed. Since the new designations will be used in ZEISS MAGAZINE and elsewhere, it is suggested that the readers mark these changed designations in the filter factor tables recently published in order to prevent the possibility of error in ordering and using these filters. Also, in ordering any filter be sure to specify the color, designation, size and whether the slip-on, prong, or screw-in type is desired. Complete information concerning the various colors, types, and sizes available will be found on the inside back cover of the small general camera catalog.

CONTAX NEGATIVE WALLETS

Both inexpensive and convenient, the Contax Negative Wallet offers the easiest and most efficient way in which to preserve and file 35 mm. negatives. Closed, they measure 9¼" wide and 2¾" high; opened, an accordion fold permits extension of six glassine sheaths, each of which holds a strip of six negatives, so that an entire roll of thirty-six exposures may be examined at once without handling. In this way, valuable negatives are protected from the dangers of dust, dirt, and abrasion, and may be filed compactly in boxes, yet they may be examined easier than if they had been kept in the original rolls. Ample space is provided inside the protective paper cover for necessary data: title, date, diaphragm, shutter speed, etc., for each of the thirty-six negatives, and space is provided on the outside cover for indexing either by number or subject, permitting any negative desired to be found immediately. Every user of 35 mm film should ask his ZEISS Dealer to show him one of these handy negative wallets.

DESPERATE PICTURES!

(Continued from page 15) exposure except that it is more likely to stop motion. With unusual lightings, as in the shade or at the beach, it will be necessary, naturally, to increase or decrease the exposure, but it is unnecessary for you to spend all your time staring at a meter, then going through abstract mathematical computations, when there are pictures to be taken.

Learn to guess-focus, even with the accurate ZEISS IKON range finder built-in your camera. It is not as hard as you think, and it will give your work a freedom from mechanics that will increase its charm and spontaneity. And think of the times when stopping to use the range finder will make the picture impossible because you are caught in the act. Know the mechanics of your camera and equipment by heart, but be prepared to disregard it when necessary without handicapping yourself.

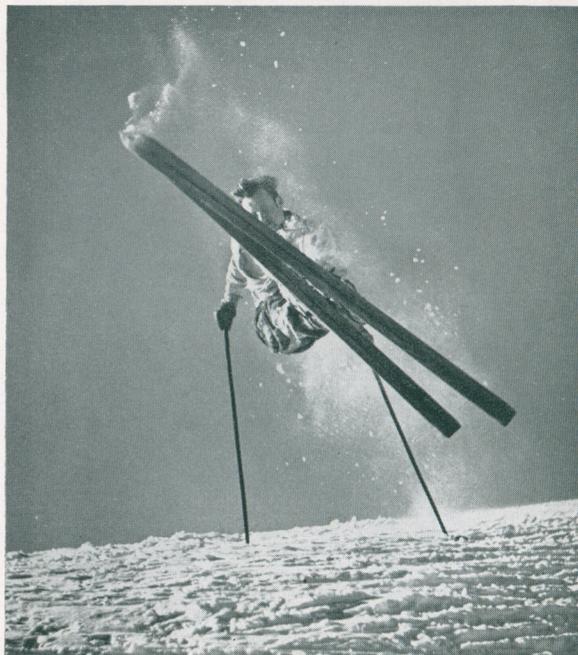
Quit worrying about grain. That's not a problem to be surmounted—it's one to be disregarded. I haven't heard a single great camera man say a word about grain in the last two years. Not that they have conquered it completely—they just forget it. Yet every amateur I meet—and some professionals—spend most of their time and money in an effort to beat grain. A knowledge of your technique plus good, clean work, and your worries about grain will be conquered for all time.

If you are interested in selling your work, print everything on 8" x 10" glossy paper—and then ferrotype it. A smaller size looks ineffective, and a larger size annoys but does not impress editors. They cannot file the larger prints and the handling and shipping is more troublesome. Glossy paper does not increase the apparent grain according to my experience. If a negative gives unpleasant grain with glossy paper, it will be equally unpleasant with matte paper. And if you have a great picture from the editor's viewpoint, he'll care little whether you have grain or not. One thing he will holler about is the poor results that matte prints give in photo-engraved reproductions. Maybe you are right in claiming as some do that equally good reproductions can be secured from matte prints—but the photo engraver doesn't generally do it. And the editor *wants* glossy prints, and after all *he* is your customer. So give him what he wants.

If you would take great pictures, go to the places where great pictures abound. Stay away from the beach, from your local ball park, and the air port. So many millions of pictures have been taken at these places it is doubtful you can hope to learn anything but exposure and composition there. Search among your friends for the doctors, engineers, architects, firemen, police, and others. Ask those whose work or hobby brings them into contact with interesting pictures. They will be glad to help you take striking pictures of their world, pictures which there is little doubt will find themselves on editor's desks as well as on the salon walls. But if you must take pictures of your children, pets, wife, or sweetheart, keep them on your own walls.

As a final word, don't forget that most great pictures were made when the camera man was sick with fear that he wouldn't get them; so desperate that he energized his discouragement into a vigorous action that was almost reckless of the consequences, whereas his competitors had decided there weren't any pictures and left the scene of action. Remember that there is no such a thing as a dull assignment, but there are plenty of dull photographers.

THE END



PAINTING WITH LIGHT

(Continued from page 11) ground added to the peacefulness of the scene and emphasized the dozing figure. I sighted and concluded that I was too near his head and missed the sag of his body, and the drooping laziness of the hammock. I moved back, then nearer the feet. That gave me the lazy effect I wanted.

Building Sand Castles: I do not try to pose Lee. I follow him around patiently and when I catch him absorbed in an interesting position, or mood, I fire away. He was playing with a brand new sand pail. If I stood up and shot at him from that angle, I would have included the pattern of the sand that had been shovelled and stepped on all afternoon. Consequently, I laid down on the sand and sighted from the front. That made the pail too prominent. His white shirt and head would be lost against the sky. I clamped on the light red R-10 filter and laid down beside him. Ah! The kneeling figure, the pail and the foreground marked out a pleasing, triangular pattern. When he became absorbed in his play again, I made the exposure.

Whitecaps and Clouds: There seemed a picture here. I tried sighting the scene from a position within ten feet of the tree, utilizing the tree only to frame the left side. The sand seemed too glaring from this position and the eye fastened only on the clouds, which were not particularly exceptional. I needed some point for the eye to start. I stepped back. Now the tree was so heavily shadowed it might be too black against an unfiltered sky. After debating on using a green GR-10 filter (which would have lightened the shadows on the leaves) or a medium yellow G-2 (which would have darkened the blue of the sky) I decided on a medium red R-10 filter to darken the sky and lessen the contrast between tree and sky. The tree and shadows in the foreground tend to catch the eye first before it travels to the sand, water and sky. The parallel lines of the shadow, trees and clouds give the picture a feeling of quiet and repose. The positions of these units were chosen deliberately in an attempt to accomplish this effect.

Asleep: Believe it or not . . . this circus attendant was asleep on his feet and snoring. I sighted from the front but lost the droop of the body. I sighted from the side. The loop of cable tended to emphasize the mood of the sleeper. That was it!

Ready to Parade: The camel was chewing its cud and waiting for the parade to form. There was a spirit of indifference and haughtiness about the creature I wanted to capture. The sky was clouded, so I clamped on my medium yellow G-2 filter to emphasize them. I squatted down and viewed the camel against the sky. Looked too much as though it might have been anywhere. Why not include a bit of the big top and make its locale unmistakable? Good idea! I rose a bit and that was it.

If these thoughts and notes do not give you any clues to painting with light, don't despair. Just keep on snapping. But think, too. Think what idea, or thought, or mood, or emotion you want to portray.

Then you will be creating . . . you will be painting with light . . . not just recording.

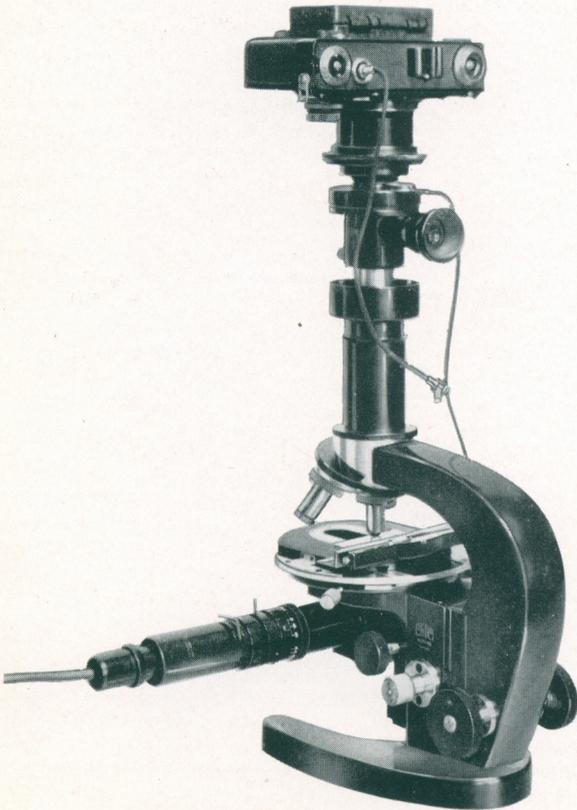
THE MONTHLY COMPETITION

(Continued from page 2) the angle from which it is viewed. In fact it is the ludicrous position of such a grotesque figure suspended over the old city that gives the humorous touch making this picture outstanding. The feeling of laughable anxiety gained from this figure lead one sarcastic viewer to suggest that it reminded him of a photographer scanning the

ground below for a glimpse of the camera which had just slipped out of his hands.

Chasing Shadows secures the third prize for Marlin B. Penical. This type of picture, enlarged from a negative exposed in the CONTAX fitted with a ZEISS SONNAR F:1.5 50 mm Lens for 1/200th second with the lens wide open, can only be secured with the very fastest lens and film in a precision camera. The poor lighting conditions and fast action of the skaters combine to make a very difficult problem solved by Mr. Penical by means of the ultra-speed SONNAR F:1.5 Lens which permitted this comparatively fast night exposure yet produced a negative meeting every demand placed upon it in the production of a good print. All winter sports pictures do not present the problems solved in securing this one, and it is difficult to understand why, considering the pictorial possibilities of both skating and skiing, more such pictures are not attempted.

The attention of users of ZEISS IKON Cameras is called to the rules of these monthly competitions on page 20 of this issue with special reference to Rule 4. The closing date, heretofore the *tenth* of the month preceding publication of the magazine, has now been changed to the *first* of the month preceding publication. This change should not cause entrants any particular hardship, for prints received too late for entry in one month's competition will be held for the next month unless we are specifically requested to return the entry immediately if received too late. Read over the rules; they are not complicated. Then make your selection of prints whether you think they are good enough or not—let us be the judge in that respect—and send them to us at 485 Fifth Avenue, New York, N. Y., now.



PRACTICAL PHOTOMICROGRAPHIC EQUIPMENT

Reproduced herewith is the photomicrographic apparatus used by Professor Crook in making the excellent photomicrographs shown in connection with his article commencing on page 18. It consists of a ZEISS Research Microscope "L" with Pancratic Condenser, Large Mechanical Stage "E," objectives on revolving nosepiece, straight monocular tube, the PHOKU-CONTAX, and the CONTAX Camera with the CONTAX Plate Back. The PHOKU-CONTAX has now been superseded by the MIFLEX Photomicrographic Attachment for the CONTAX which offers several advantages over the PHOKU-CONTAX such as the exchange of Micro-oculars in place of the fixed 5x magnification of the PHOKU-CONTAX Ocular, also a choice of focusing by means of ground glass with magnifier, clear glass with cross lines and magnifier for focusing by means of the virtual image, and focusing by means of telescopic magnifier similar to the PHOKU-CONTAX. The Pancratic Condenser, originated by ZEISS, is of interest to all photomicrographers, for its novel arrangement permits by an instantaneous movement the synchronization of the numerical aperture of the condenser with the numerical aperture of the objective in use within a range from NA. 0.16 to NA. 1.40. Professor Crook justly says "this is one of the greatest advances that has been made in microscopy for many years." Although the CONTAX I is shown in the illustration, any model of the CONTAX may be used with equal facility, and Plate Back Adapters are available for each.—Editor.

ZEISS IKON



Courtesy: Sports Illustrated

WALTER ENGEL

PHOTOGRAPHIC EXHIBITION

NEW YORK—485 Fifth Avenue—January 3rd to 8th ... BOSTON
 —Parker House—February 3rd to 5th ... PHILADELPHIA—Belle-
 vue Stratford—February 17th to 19th ... PITTSBURGH—Hotel
 William Penn—February 24th to 26th ... CHICAGO—Palmer
 House—March 7th to 12th ... DETROIT—Book-Cadillac Hotel—
 March 17th to 19th ... CLEVELAND—Hotel Statler—March 24th
 to 26th ... LOS ANGELES—Biltmore Hotel—April 20th to 23rd
 ... SAN FRANCISCO—St. Francis Hotel—April 27th to 30th.

