



Exakta
THE MAGAZINE FOR EXAKTA PHOTOGRAPHERS

WINTER 1950-51

Exakta

THE MAGAZINE FOR EXAKTA PHOTOGRAPHERS

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Rainy night shots, like this one by Ray Shorr, can be obtained with fast exposures despite poor light if a special developer is used.

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COVER PHOTO BY FERENC BERKO

POOR LIGHT, FAST ACTION

By RAY SHORR

*Free-lance Photojournalist and
Photography Instructor, Brooklyn College*

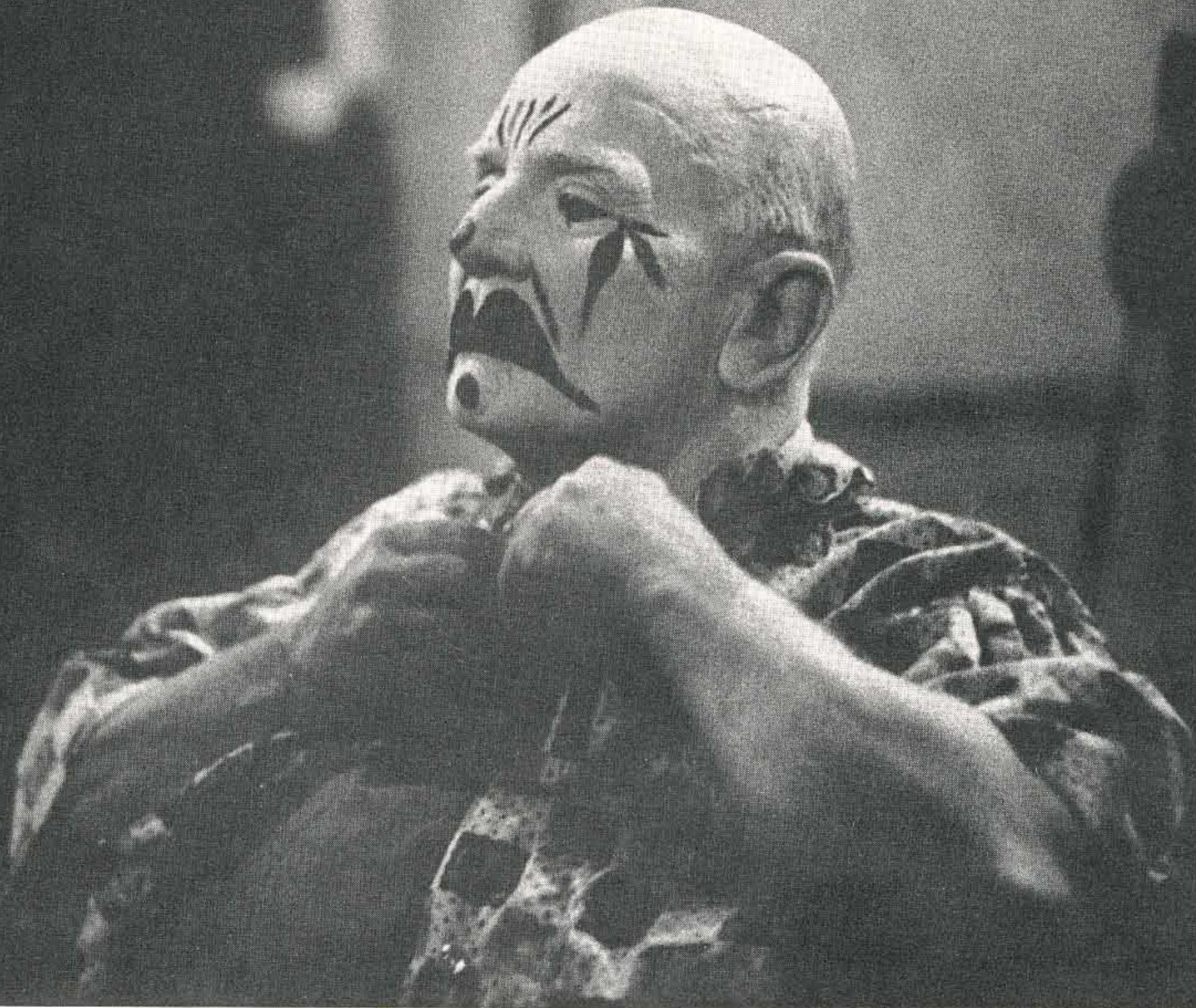
Have you ever taken an action photograph with your Exakta by the light of a match? Or by the light of a 40-watt bulb?

If you have, you know that such pictures are impossible to shoot by ordinary methods unless you use a time or bulb exposure, which means you will get subject movement. Flash or floodlamps would supplement the lighting, but would defeat your purpose of getting a picture by existing light.

Photojournalists often face this problem and have puzzled over it for years. They have tried using lenses of the largest possible aperture (f 1.5) to solve it.

The large aperture lens is an optical achievement and a boon to the 35-mm. photographer. It has given the miniature camera owner a great photographic advantage over owners of cameras using larger film, but it has not completely solved the problem of getting fast enough exposures for available light shots.

Using a lens with a large aperture, you can shoot faster in dim light than with other lenses. But even the f 1.5 lens won't



A 40-watt bulb was the only light used for this picture. Shorr photographed the clown with a fast exposure, lens wide open, knowing that his negative would be badly underexposed. Using one of the D-76 variation developers described in this article, however, he was able to get a good image on the negative and make a fine print.

allow you to shoot faster than $1/25$ of a second wide open in poor light. This speed may work well for stationary objects but is unsatisfactory for moving ones in bad light.

In the last couple of years, photojournalists have turned to other methods to solve the poor-light, fast-action problem and have come up with one that is startling. It has been known but neglected for a long time and only the needs of modern photographic journalism have brought it back from oblivion.

It is a simple, controllable change in the developing formula and is now standard routine in the darkrooms of many picture magazines, including *Life*, as well as those of numerous top photojournalists. It is particularly suited for the needs of 35-mm. photography. I use it constantly and get excellent results.

Recently a magazine asked me to photograph a Manhattan night club and catch the intimate atmosphere of the smoky basement. The needle of my exposure meter didn't even quiver when I tested the available light.

Flash was out because the harsh light of the bulb would give a completely false representation of the fume-filled cavern. Careful use of floodlamps would have supplemented the existing (little) light, but would have annoyed the customers. So I used the fastest lens I had (an $f 1.5$) and shot at $1/5$ of a second. Then I went to the darkroom and performed my "magic."

Almost the same thing happened to me when I was shooting the Ringling Brothers Barnum and Bailey Circus. Wandering around backstage, I discovered a clown getting set to go on. The only light was a 40-watt bulb hanging overhead. I shot the picture shown on this page, using a fast-speed, and again performed darkroom magic.

These results seem like miracles when one writes about them but they can be obtained by anyone who is willing to make some test shots and use one of the altered developers. The formulas are no secret and the mixing of the developer variant requires no more time than it takes to make up a solution of the original.



A moving subway train is not the easiest place in which to shoot, but Shorr was able to get this picture by using a fast exposure and a special developer to compensate.

I use two developers for this type of 35-mm. work: D-76 with additional borax, sometimes called D-76-F, and D-76 with Kodalk instead of borax. All of these ingredients are available from photo supply dealers, or chemical supply houses.

D-76-F is my choice for most of my 35-mm. work. It is made by increasing the alkali (borax) concentration of the developer tenfold; 290 grains of borax instead of the 29 called for in the formula. If you prepare your developer from the packaged quart of D-76, add the additional 261 grains of borax required after the developer is completely mixed.

This developer will permit you to shoot at a film speed rating of anywhere between Weston 200 and 300. Normal development time is seven and a half minutes at 70° F., but I have prolonged development as long as 11 minutes to gain more speed. (*Development has been prolonged as long as 26 minutes without noticeable increase in grain.—Ed.*)

As an alternate to borax, I use the same amount of Kodalk, a proprietary alkali of the Eastman Kodak Company. With it you

Interesting photographs, like this silhouette, can be taken even in the dark balcony of a theater if you later use D-76 with additional borax, or replace the borax with Kodalk.



can shoot at a film speed rating of Weston 300 to 400, a full stop faster than with D-76-F, but it does give more grain.

If it's possible to shoot between Weston 200 and 300, there is little point in using the Kodalk variation. But if you really need the extra speed, Kodalk will give it to you.

With longer developing times, both D-76 variations will give film speed ratings much faster than those listed previously. When I tested the faster Kodalk version, for instance, I quit after reaching a speed of Weston 1200, a speed far above any practical use.

D-76 with Kodalk is at its best at speeds of Weston 300-400. In dire emergencies, decent prints with moderate grain can be obtained with exposures based on Weston 500-600.

It is important to do all developing by inspection under a standard green safelight. One of my pet tricks is to have two or three extra Nikor reels in my darkroom. When I find one section of the film coming up faster than the rest of the roll, I simply cut off the fully developed section and spool it into an extra reel. Then I process the remainder longer.

Although you can obtain fine results developing normally exposed film by time and temperature, inspection is essential for bad light pictures. Developing by inspection, I have enough control over the progress of a negative to make almost any exposure correct. Of course, you must not inspect your film too often and keep it in darkness most of the time or you will fog the film.

Cutting development time to less than 7 minutes with a D-76 variation will produce flat negatives and muddy prints. A good negative taken with poor light must have areas of perfectly clear film. For best results you should strive for minimum exposure and full development.

Available light photography often produces prints that look as if they were taken under Kleig lights. This is largely due to the natural tendency of the photographer to increase exposure to be on the safe side. To overcome this, it is essential that you gain confidence in the developer's ability to give you speed.

Paradoxically, overexposure must be carefully guarded against in bad light situations. There is really no cure for the blocked-up highlights of overexposed film.

It is not necessary to use an f 1.5 lens with this method. Even the f 3.5 lens, which is standard on the 35-mm. Exakta, is fast enough to make pictures in many of the available light situations a photographer encounters.

My favorite 35-mm. film is Plus-X. By using these powerful developers, I can step up its speed so that it is much faster than that of Super-XX. This is an advantage since Plus-X has a higher resolving power (ability to distinguish fine detail) than Super-XX and more inherent contrast.

When I know that the film will undergo extreme over-development, however, I use Super-XX. This isn't because Super-XX is faster, but because of its inherent flatness, compared with Plus-X. Matching a very contrasty development with a flat film prevents over-contrasty negatives.

To get the hang of making good pictures by whatever available light, I suggest that you take as many pictures as you can at 1/2 of a second. Try making candid shots at home or in the office under normal room illumination before you tackle the really hard ones.

Gradually then you will begin making pictures where you never thought film could record images before.

FOR SALE

Used 2 1/4 x 2 1/4 Exakta (uses No. 120 size film) with leather ever-ready case and the following lenses:

Tessar f 2.8, 85 mm.; Tele-Xenar f 4.5, 240 mm.;

Biolar f 2, 100 mm.; Tessar f 6.3, 65 mm., wide angle

Box W101, Exakta, 46 West 29th St., New York 1, N. Y.

ANGENIEUX

LENSES FOR YOUR EXAKTA

From the world-famous laboratories of French lens-maker Pierre Angenieux have come two lenses for the Exakta that have startled the photographic world. All the postwar advances in lens design and construction have been put into these Angenieux products with amazing results. You can see the difference in your pictures when you use an Angenieux lens. For crisper, sharper photographs, try these two outstanding lenses today.

RETROFOCUS, f 2.5, 35 mm. Miniature camera owners for years have sought a lens that would offer three very important advantages—high speed and large aperture, wide angle and short focal length. For technical reasons it has been impossible to use lens shorter than 40 mm. with the Exakta. Now Angenieux has the answer.

The Retrofocus is an inverted telephoto objective with a very large aperture, a design unknown until now. Wide open at f 2.5, it can be used with great success for high-speed and dim light photography. It can also be used for all normal photographic needs and may be closed down to f 22.

It has excellent definition throughout its entire coverage area and furnishes photos that are crisp and sharp over the entire negative area.

Extreme wide angle coverage, an invaluable asset to the miniature camera user, may be obtained with the Retrofocus. The lens has an angle of 64° as compared with 45° to 40° of 50-mm. and 58-mm.

lenses and will cover a huge area even when focused upon a near object. Depth of field is extreme with the Retrofocus, which is coated.

The lens' light-weight mount has an unusual feature, duplicate diaphragm stop and distance scales on both sides to simplify adjustment. Complete with lens caps, the Retrofocus sells for \$99.50.

TYPE P1, f 1.8, 90 mm. To answer the demand of today's photographers for extreme speed and wide aperture plus long focus in a lens, Angenieux has designed the f 1.8, 90 mm. P1. Here is a lens that every Exakta photographer must have in his gadget bag in order to shoot successfully on those occasions when subjects are too far away and the light is too dim for ordinary lenses.

The remarkable advantage of this lens is its great resolving power. Use the P1 to bring your subject closer when you are shooting scenics, to take portraits indoors, to shoot the fastest action when the light is poor. The P1 is coated and duplicate diaphragm stop and distance (in feet) scales are engraved on the light-weight mount. It sells for \$149.50.



Manufactured by
PIERRE ANGENIEUX
Paris, France

U. S. A. Factory Representative
EXAKTA CAMERA CO.
46 West 29th St., New York 1, N. Y.



SNOW AND SKI PHOTOS

During the nearly six months winter lasts in Aspen, Colo., I have ample opportunities, to put it mildly, to photograph skiers and snow scenes. I find few problems with which I am not already familiar because of my previous work in Europe, and a few factors, such as low darkroom and solution temperatures and absence of dust, that make for more pleasant working conditions than in the lowlands.

While I use other cameras for some of the publicity work I do, my Exakta is an invaluable aid for many of the types of pictures I take. The great advantages of a 35-mm. camera for snow and ski pictures are that it is easily carried; it can be handled rapidly and simply; 36 exposures can be taken without changing a roll of film; and, very important to me, lenses of various focal lengths, especially long ones, can be used without the burden of great weight.

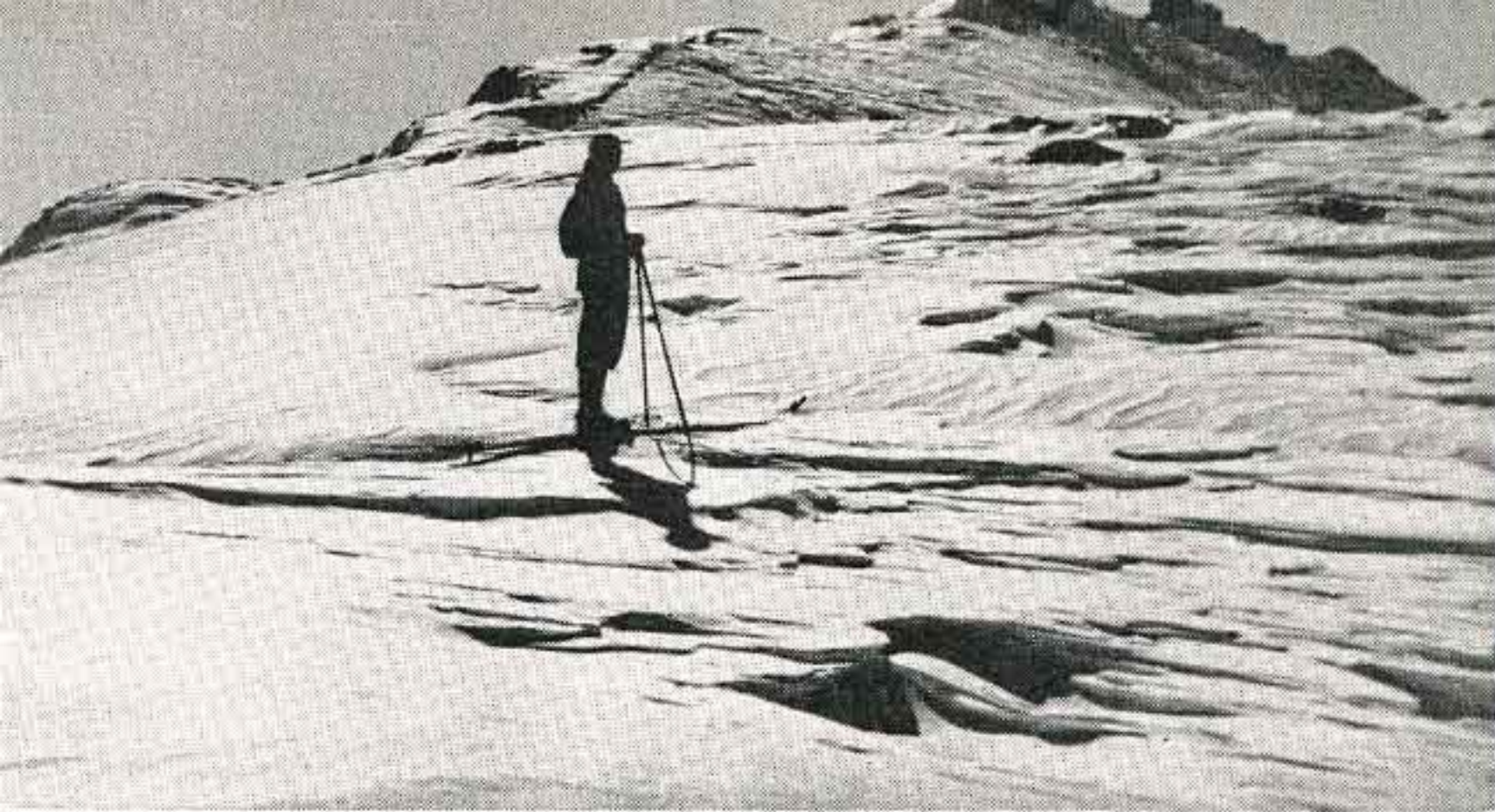
For action shots, a four-inch lens is ideal in most circumstances. You don't have to go too near the skiers, yet it brings them close. You can fill your negative area with the figure and still retain enough depth of field to prevent a flattening-out effect of the area photographed.

I like to shoot patterns and abstractions for my own pleasure. The snow that abounds at Aspen is a wonderful subject for this type of photography because it covers up the unessentials that often clutter up pictures.

Snow often emphasizes or even creates beautiful, pure lines. Many of these are best viewed at a distance, because they disappear as one nears them and changes the perspective. That is why I love to use long focal length lenses, especially on the Exakta where they really are of long focal length.

Since I can shoot at 1/1000 of a second at f 5.6 or f 8, or 1/500 of a second at f 8 or f 11, even on a fine grain film like Panatomic-X, I feel free to use the long lenses without a tripod. This is very important when you are using a 35-mm. camera to avoid cumbersome and heavy equipment.

Long lenses allow you to get close to subjects which you cannot otherwise approach. They are the only means of getting peaks and mountain ranges so they will look as impressive in



BY FERENC BERKO

Photographer for Aspen Resort
and Container Corp. of America

your photographs as they do when you view the actual scene.

With good weather, there is a surprising consistency of light and a few fundamental exposures will see you through nicely. My basic exposure is 1/100 of a second at f 16 to f 22 for black-and-white film developed in Microdol or D-76 and 1/100 of a second at f 8 for Daylight Kodachrome.

With careful development, Super-XX and Plus-X are very satisfactory for ski and snow photography. I prefer Panatomic-X, however, because of its finer grain and greater contrast, which suit my purposes and general working methods better. (Kodak has announced that the sale of Panatomic-X will soon be discontinued.—Ed.)

If the sky is very blue, there is rarely any need for a filter with black-and-white film, unless you want to protect your lenses, which is why I use one. For color, I recommend the Kodak Skylight filter.

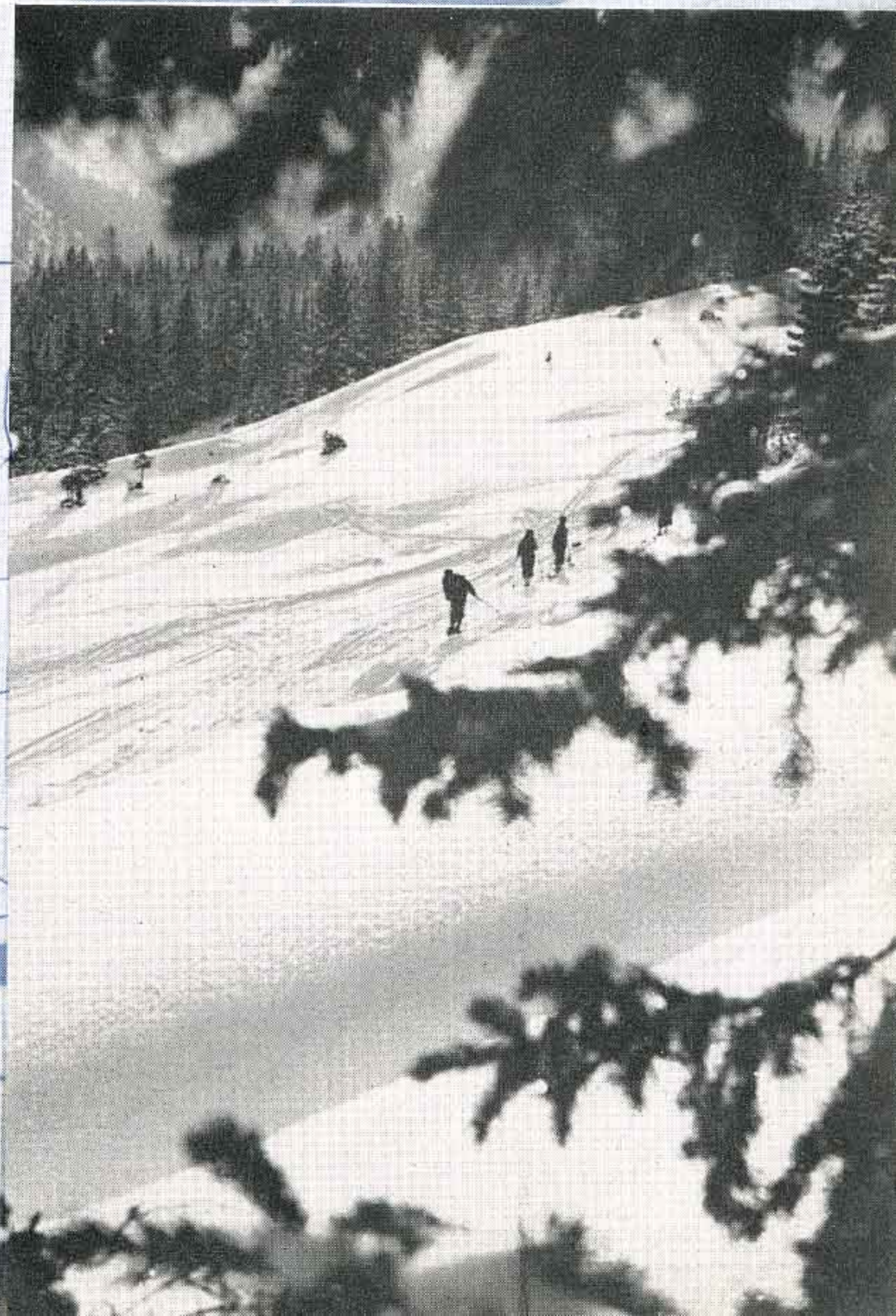
For skiing action shots, exposures of 1/1000 of a second are imperative with fast films of all types. Surprisingly enough, this exposure seems to be correct for Panatomic-X as well as other films. It shouldn't be, but it is and gives me somewhat thin negatives of nice quality.

Generally, to get good whites and blacks, you will need well-exposed negatives. I warn strongly against any underexposure, a great danger for those not familiar with the light conditions of the snow-topped mountains. Take a meter reading from nearby objects, not the sky, or your snow will look gray.

To increase contrast more, underexpose and overdevelop. With this method, you can still use rapid exposures and stop down, especially in bad weather.

If you must take action shots under bad conditions—races so often are run while it snows!—there are chemicals to increase your film speed. (See pages 2-4.—Ed.) They tend to increase graininess, of course. I have found that an increase of about two stops with a 30 per cent decrease in developing time will give me sufficient speed and still retain good negative quality.

The main thing in snow and ski photography is to get accustomed to your equipment and materials so you no longer think about them and are free to concentrate on the most important thing in photography—seeing.



OF VIEWFINDING

Horizontal-format pictures can be taken with your Exakta held at waist level, supported by neckstrap, a hand under camera.



When the Exakta is held at chest level, it can be steadied by jamming it firmly against your body while shooting.



Another way to use the camera horizontally at this level is to hold one hand under the camera bottom or the lens.



Focusing and shooting horizontally with regular hooded finder on Exakta at eye level is accomplished in this manner.



Unwilling subjects may be taken unawares when the camera is held at right angles to your body at chest level.



Your Exakta can also be aimed sideways when held at eye level. Focusing is easy with finder this close to eye.



Vertical pictures also can be taken of unsuspecting subjects at eye level when the camera is held as shown below.



When many people block you from getting close to your subject, you can shoot over their heads in this way.



If the sun is in your eyes when shooting a parade or similar event, turn around and reverse camera direction.



To photograph an airplane, clouds or other aerial views, simply point the camera upward and focus through finder.



With the Penta Prism finder, the camera is held in this position to take photographs with a horizontal format.



Pictures with a vertical format can be taken with one eye sighting through the finder, other looking at the scene.



YOU CAN SIGHT IN ANY DIRECTION WITH THE EXAKTA'S TWO VERSATILE FINDERS

A new art has been added to photography with the Exakta—the art of viewfinding. You will find it quite exciting!

Using the regular hooded and Penta Prism viewfinders on your Exakta V is a photographic technique in itself. If you learn how to make full use of these finders, you will be able to get many outstanding pictures that you would otherwise miss.

Photographers tend to take a viewfinder for granted. Often they consider it a peepsight rather than a versatile tool that can be adapted in many ways to suit their needs.

The two finders available for your Exakta and their interchangeability are unique features in photographic design. They are meant to serve as a team, each for an individual purpose and to complement each other. One does not replace the other.

Every Exakta owner knows how to use the hooded finder in the customary way; that is, at waist, chest or eye level. The picture that results from such a position is horizontal in format.

Supposing you want to get a picture of a scene with a vertical format. All you need to do is turn at right angles to your subject, hold the camera so the lens faces the subject and the format is vertical, and then sight through the finder as usual.

The same method may be used to shoot an unwilling or unsuspecting subject. Turn at right angles to the subject and hold the camera in position for either a horizontal or vertical picture format. Hide the camera with your arm until you are ready to shoot. Take the precaution of setting the exposure speed and aperture and cocking the shutter before uncovering the camera.

If you are hemmed in by a crowd and can't approach your subject, you don't have to climb a tree and shoot from a height. Lift the camera above your head, reflex hood down, and focus by looking up into the finder. If the sun is shining in your eyes, turn around and reverse the camera.

The versatility of the reflex hood is surprising. This all-direction finder allows you to point the lens of your Exakta at your subject from many different directions and angles and still focus without changing your position.

The second half of the Exakta viewfinding team, the Penta Prism, adds some invaluable features. With this finder, the Exakta photographer also can make eye-level shots with a horizontal or vertical format.

Sighting through the Penta Prism, whether for horizontal or vertical pictures, is like looking through a small window. Everything is "life-size," the same size in the finder as the eye sees it.

Unlike the finders of other cameras, the Penta Prism can be used by the photographer with both eyes open. One eye sights through the finder, the other follows the actual scene.

When the Exakta V is placed on a tripod, copy stand or microscope, focusing with either finder is convenient and easy. You also can focus the camera without difficulty whether you are seated or standing.

The versatility of both finders is also demonstrated when your subject is near the ground or high in the air. With the hooded finder, you can take pictures at foot level, while the Penta Prism makes the sky the limit.

A HANDY CASE FOR YOUR EXAKTA OUTFIT



By DANIEL J. McGARIGLE Jr.

For the last 15 years, I have been interested in photography and have been doing the odd assignments required by the bank for which I work, The Philadelphia National Bank. This includes taking pictures for our employe newspaper.

I fell in love with the Exakta the first time I picked it up. It fell within the price I wanted to spend and seemed the ideal answer to my problem. I have been using it for about 75 per cent of our work and it has proved its worth.

At the competition held last January by the Philadelphia Industrial Editors Association, I was awarded four prizes for photos published. Two of these were made with the Exakta. I truly believe the Exakta to be the most versatile camera I have used and it is a pleasure to use it.

I have photographed everything from banquets to baseball and golf. I have copied with it, taken bowling photos, candid and just about everything possible. I feel that it has made a rather tough job much easier.

Like other camera owners, of course, I accumulated a good deal of equipment and accessories for my Exakta and soon had the problem of finding a method of carrying the equipment around in a handy form. A revamped Burke & James Reel Chest, which measures 16x6x6 inches, was the ideal answer.

The top of the chest is about two inches deep. It is made of wood, covered with a light tan waterproofed fabric, and has a strong handle on top. The interior is lined with dark red felt.

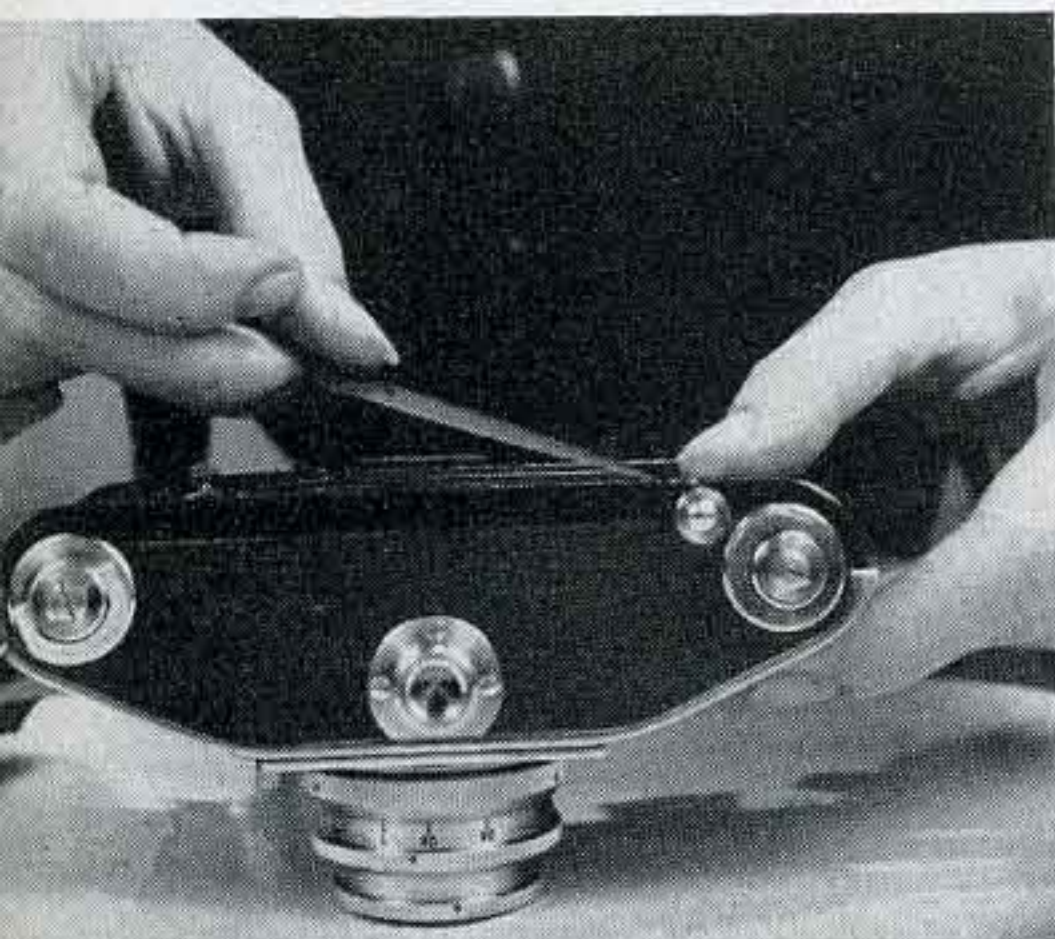
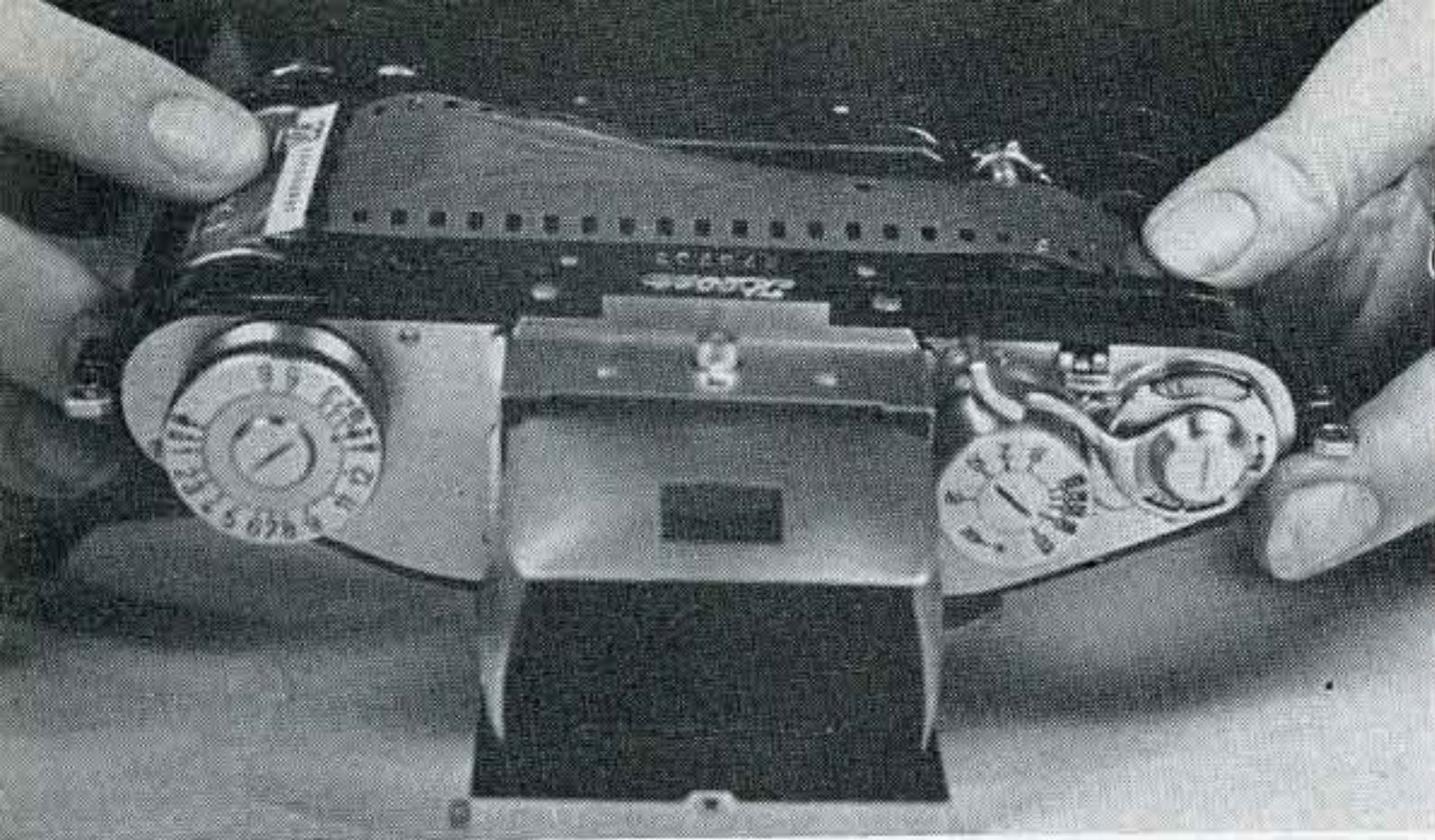
I arranged my equipment in the box about 20 times before I started making the partitions. After deciding on the most convenient way of placing the items, I took several pieces of 3/16" hardwood that formerly served as desk drawer separators and made the partitions. I decided that 2½" would be the best height.

I made the partitions up in one piece before inserting them in the case. All the fastening was done with wire brads and countersunk to prevent any scratching. The top of each partition was rounded with a beading plane.

A search in the family ragbag brought forth a discarded pair of flannel pajamas which were dyed to match the color of the felt. This was cut to size and glued to the wood. My total investment was \$4.10.

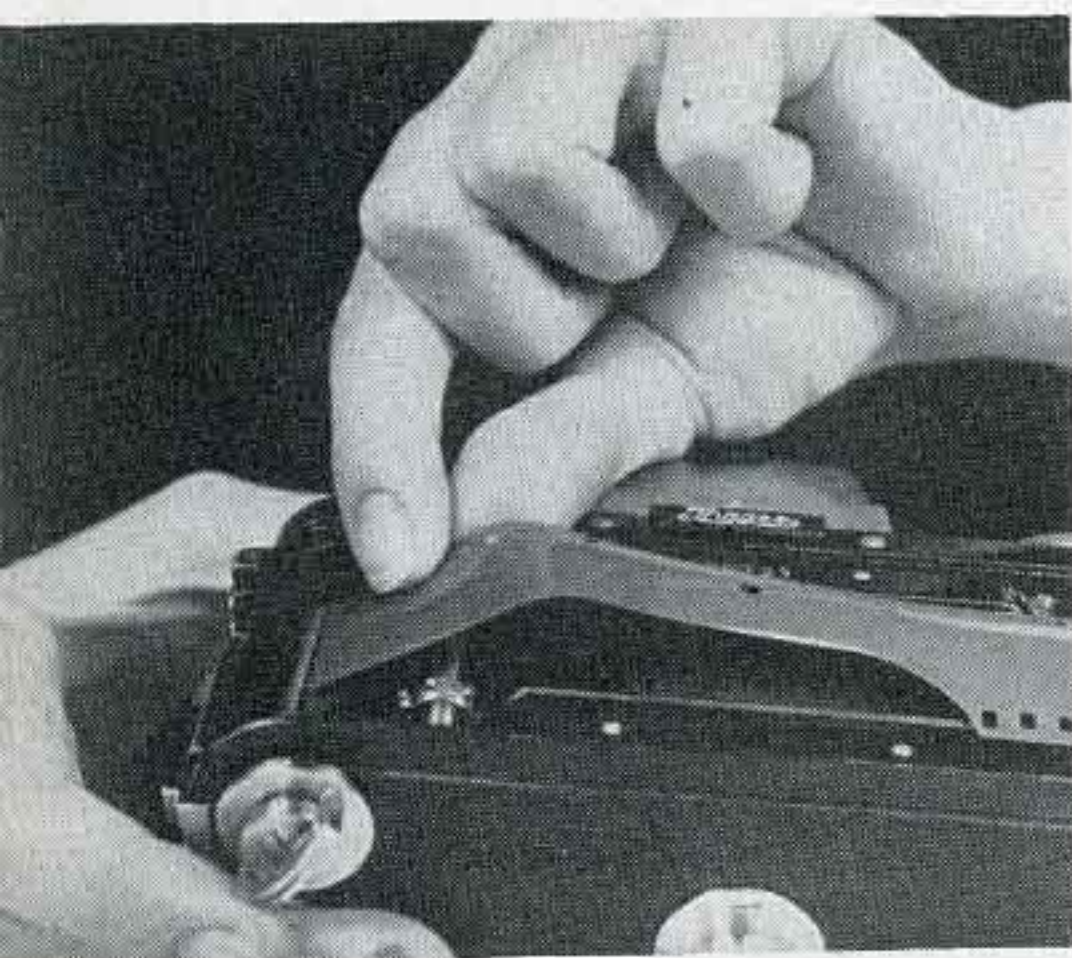
In this chest, I carry the following items: camera in its case, f 1.9 Meyer Primoplan lens, flashgun with a 5-inch reflector, cord, cable, exposure meter, prism finder, four extra film cartridges, 11 filters, auxiliary lens, polaroid filter, lens hood, extension rings, rewind lever, 16 flashbulbs, a dust brush and miscellaneous small items such as press cards and photo data sheets.

The flashbulbs, lens hood, rewind lever, extension rings and reflector fit into the top of the chest. They are secured there by means of elastic tape secured by tacks. The camera and additional lens are kept from banging while the case is being carried by cotton pads placed under them and at each side.



Negative scratches usually are the result of careless film handling and often occur during camera loading and unloading. Film can be damaged easily, for instance by careless placement of the film cartridge in the film chamber. Make certain you press the cartridge firmly into the chamber (see above) so there is no play in the film while it is being transported. Also pull out only as much film as you need (left). Loose film may get scratched or make the film wind difficult.

NO SCRATCH, NO SPOT



To avoid scratches, handle film at all times by the edges (left). This rule should be observed particularly after the film has been developed and when you are enlarging. Many scratches are introduced during enlarging by careless handling. Avoid scratches also by making certain film is pushed firmly against edge of take-up spool (below) so it fits on spool and hits sprocket teeth correctly. If film does not wind up properly, it may be damaged rubbing against a metal part or be torn.



Scratches on negatives are the gadflies of a photographer's life, particularly one who works with 35-mm. film. Because 35-mm. negatives are enlarged considerably in printing, even a minor scratch shows up as a major calamity in the enlargement. Since retouching is impracticable with small negatives, the only remedy (when vaseline does not work) is spotting.

Negative scratches usually are the result of careless film handling. Film emulsion is relatively soft and can be damaged easily. It should always be handled as if it were the rarest piece of china or most delicate instrument.

Never touch the emulsion with your fingers, if you can help it; rather handle it by its edges. Even if you don't scratch the film you undoubtedly will leave fingerprints in the emulsion if you touch it. Fingerprints etch into the emulsion in time.

Careless loading and unloading of film is one of the easiest ways to scratch your film. If the cartridge is incorrectly placed in the film chamber, the film can be damaged easily. Make certain that you press the cartridge firmly into the chamber when you are loading, to prevent any play in the film while it is being transported during winding and rewinding.

Handle only the cartridge and the starting tip of the roll with your hands, if possible. Tuck the starting tip under the tongue of the take-up spool and push it against the side of the spool. Otherwise film may not wind properly and be scratched.

Do not pull out more film than you need to get the roll started. If, by accident, you do pull out more film than needed, wind it onto the take-up spool by turning the side of the spool so the film isn't loose when you close the camera.

When winding and rewinding the film, use a steady, even pull. Avoid going extremely fast and stops and starts during the winding or rewinding.

Faulty film cartridges also may scratch film. During the normal winding and rewinding, the film twice passes through the light-tight black felt lining the edge of the cartridge opening. If the felt has dust or grit on it, the film may be injured.

Damaged developing equipment (tanks, reels, washing containers) sometimes is at fault. If you do your own developing, it's always a good idea to check your equipment first when you notice scratches. If a photofinisher does your work, take your negatives to him and ask him to check his equipment.

Sometimes an accidental bang on the back of your camera or simple pressure on it may bend it so the proper space gap between film and back no longer exists and the film is scratched as it passes through. Utmost care should be exercised to prevent such accidents from happening, but if they do take your camera to a reliable repairman, preferably an Exakta dealer.

Exakta 35-mm. photographers occasionally prefer to avoid rewinding in order to minimize the possibility of scratching the film. This can be done by removing the fully exposed film and the take-up spool in a darkroom or changing bag. A changing bag can be improvised, using a dark jacket with your hands through the sleeves.

The key holding the take-up spool in place is on a spring and can be pulled out. When this is done the take-up spool will fall out if the camera is turned over.

Keep your camera clean. Dust inside it settles on the film and causes pinholes or scratches when the film is pulled during winding or rewinding. Air bubbles in the lens, contrary to popular notion, do not cause any marks on the film.

After your film has been developed, keep it in dust-proof envelopes in a drawer, box or negative file. Handle the film only when necessary. Be careful to remove dust with a camel-hair brush before enlarging. Dust can scratch the film when it is placed in the negative carrier of the enlarger.

If you will follow these tips, you will eliminate a good deal of spotting from your photographic life.

Charming animals make charming pictures, admired by everyone. So why not aim your lens at your pet cat or dog and get the thrill of shooting a picture of prize-winning caliber?

And when you do, make certain you have a Steinheil lens on your Exakta. The Steinheil Culminar is the perfect lens to use for pictures of even the most difficult subjects. The Culminar is the culmination of Steinheil's 100 years of experience in lens manufacturing.

It is a precision-ground objective, coated for greatest resolving power. The most discriminating photographers use the Culminar in their work because it meets the highest standards for color correction, sharpness and performance. The Culminar is available in beautiful satin-finish, lightweight mounts in two speeds and focal lengths. The 85-mm., f 2.8 Culminar is ideal for fast exposures of indoor subjects fairly close to the camera, particularly portraits, and is priced at \$69.50. The 135-mm., f 4.5 Culminar is the over-all lens to use for distant subjects and is also priced at \$69.50.



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with a
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LENS ON YOUR EXAKTA

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NEW WAYS

IN PHOTOGRAPHY

By *BERNARD DAVIS*

Much has been said and written about "the imaginative approach to photography." Some photographers, especially those who believe only a contact print from an unretouched 8x10 negative represents the essence of the art, stress control of subject matter at the moment of exposure.

Others go to the opposite extreme and, by means of retouching on negative and print (or successions of both), produce a final print as little like the original negative as they possibly can manage.

In photography, as in other things, extremes do not represent the wide range of possibilities. And the photographer who does not exploit to the fullest the tremendous potentials of this wonderful medium, is missing not only an opportunity to extend his technique, but of developing his creative imagination.

"Imagination," according to Webster, is the "mental synthesis of new ideas from elements experienced separately."

All that fancy language means just this: trying to see the typical elements of our photographic experience in a new and stimulating way. Not just the subject matter; not just the processing of the film; not just the making of the print.

The accompanying picture is an excellent example of imaginative use of photographic materials. It is a reversal print in black and white made from a color transparency.

The procedure is not difficult. The color transparency is placed in the enlarger just as a negative is. As a result, the positive image of the transparency is produced on the enlarging paper as a negative. All the tones in the transparency are, therefore, reversed in the final black-and-white print. The light tones appear dark, the dark ones light.

Why was it done? Not because the transparency isn't satisfactory; the composition and color are excellent. Simply because the photographer wanted to see the effect of reversing the positive colors of the transparency to the black-and-white tones of a negative.

Is one better than the other? No, because they are different pictures. Each has been visualized in a special way. Each projects a different effect and will provoke a different response from the viewer.

What does it prove? Just this: a picture may be seen and produced in many different ways, each with its point of view and purpose. The typical elements of our photographic experience should be seen and evaluated in new ways, for it is only through the imaginative use of our medium that we can ourselves grow to meet the challenge its possibilities present.





CARL ZEISS, Jena

The Greatest Name in Lenses

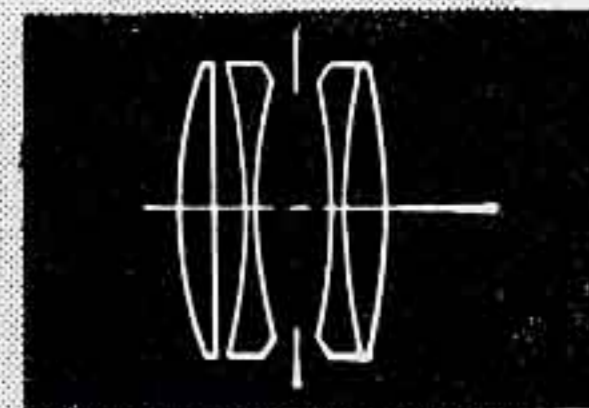
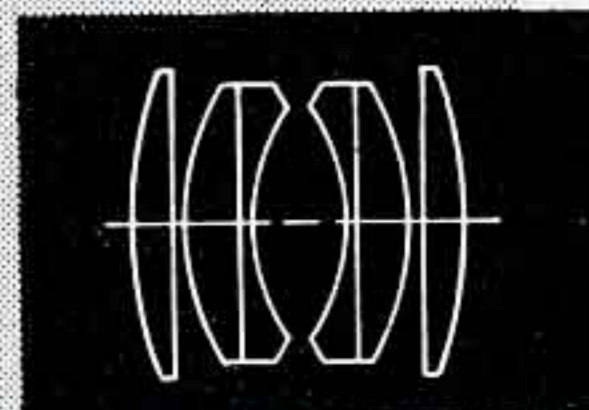
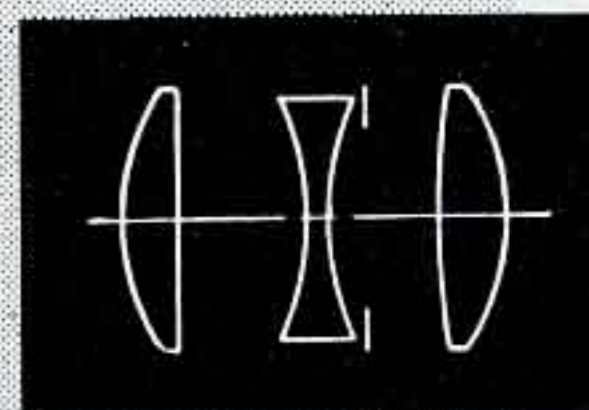
For many years, there has been only one name that instantly means superb quality in lenses, one name on which the photographer places his reliance and the only name he accepts unquestioningly as the lens of finest definition and highest standards. The Carl Zeiss, Jena name is world-famous and the favorite lens of photographers everywhere. And Exakta owners are no exception. Without hesitation, no matter what the problem is, they select a Zeiss lens to solve it. You undoubtedly have one or more Zeiss lenses for your Exakta, but will be interested in knowing that a large variety of Zeiss lenses are available. If you have not yet had the thrill of using them, you will find a new photographic universe available with the aid of any of the following objectives.



◀ 135-mm., f 4 Triotar. This long focal length lens is useful when you need to get closer than the 75-mm. Biotar allows. Crisp definition makes it one of the most useful lenses in your list \$99.00

◀ 75-mm., f. 1.5 Biotar. The fastest of Zeiss' battery of lenses for the Exakta, this Biotar offers truly amazing performance. The large aperture means you can shoot under the most difficult light conditions with surprising sharpness, even wide open. The longer-than-normal focal length means you can bring objects closer to you when you cannot approach your subject \$216.50

◀ 40-mm., f 4.5 Tessar. No Exakta owner can do without this wide-angle lens. It is indispensable for shooting in narrow areas and for covering large areas that are beyond the ability of lenses of normal angle to record \$99.00



It isn't often that a person's hobby is of daily use to him in serving his customers. Mine is doing just that.

The taking of color shots has always fascinated me. The beauty and the remarkable reality of a transparency has caused me to spend time and money taking pictures of people, birds, dogs, cats, fish, flowers and scenery.

Recently, I became interested in combining my hobby with my work in schools. My job consists of selling Royal typewriters to the schools of the city of New York and demonstrating to teachers and students their full and proper use.

Why not let my camera help me tell my story more effectively through the sense of sight? I asked myself. The idea of being able to offer a factual and orderly presentation of carefully planned pictures in full color projected on a screen intrigued me. Through this means it would be possible to portray easily, vividly and dramatically the purpose and function of every operating control and device on the typewriter and do it in a most modern, thorough and widely accepted manner.

I soon became involved with lights, special backgrounds, wires, papier mâché arrows and all the other equipment necessary to produce the desired effect on color film. The preparation of the 27 slides in the set took about four months of off-and-on work. Many shots had to be retaken three or four times.

My picture plan called for 27 slides. In some of them, the typing on the sheet of paper in the typewriter would have to be readable. In others, the 10th-of-an-inch calibrations of the typewriter scales and their numbers would have to show clearly. In still others, close-ups requiring the use of extension tubes were imperative.

In all of the slides, reflections from chrome surfaces had to be kept under control. Composition frequently called for complete use of the extremes of the frame.

Let me state frankly that I am not a professional photographer and, after considering these problems, it is certain I would never have undertaken the project had it not been for the fact that I knew my Exakta would solve every one of these problems for me.

My equipment was set up for some trial viewings to find out whether the typing on the paper would be readable in the picture and whether the calibrations would show clearly. A flip of that indispensable magnifier told me that up to this point all was well.

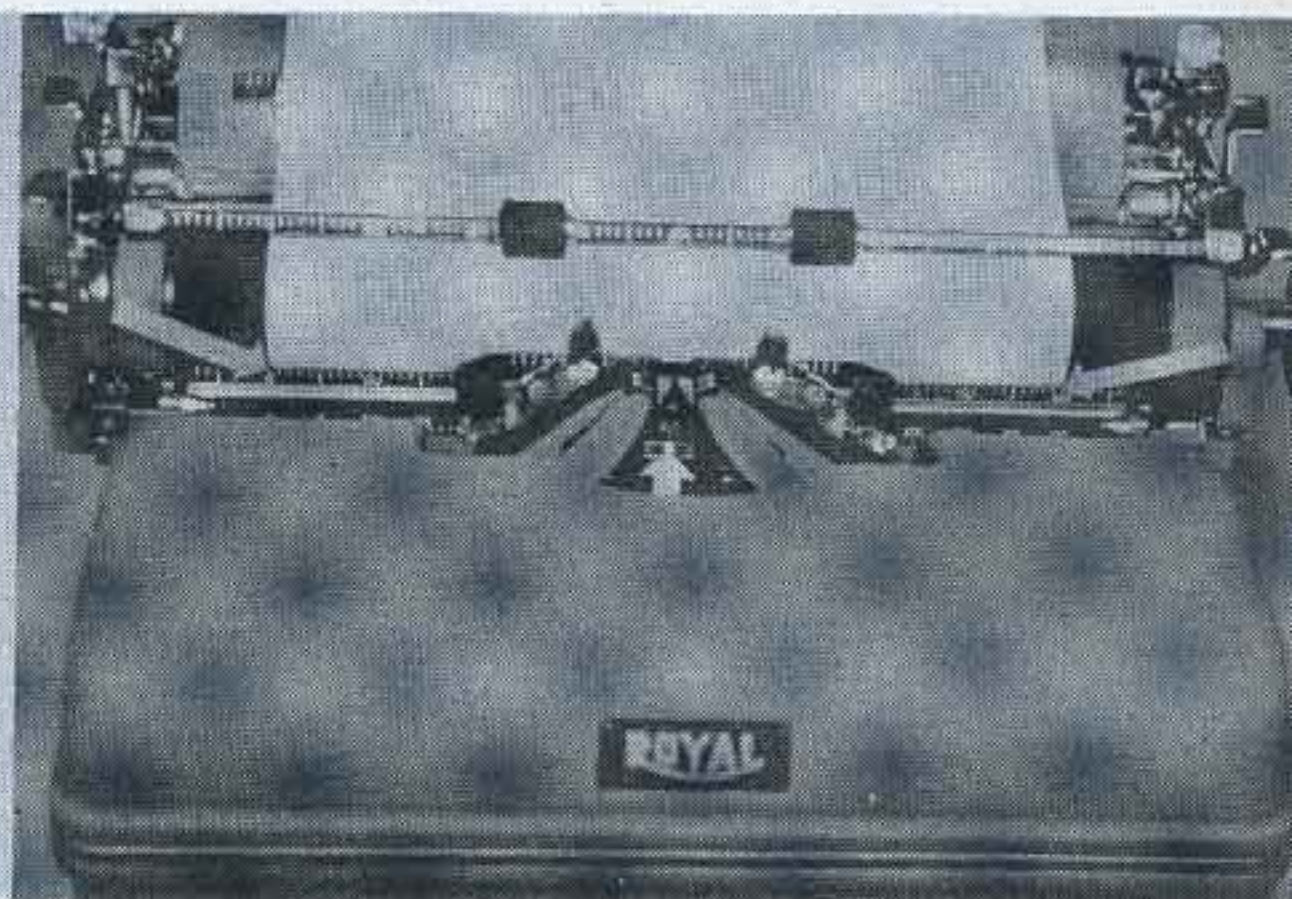
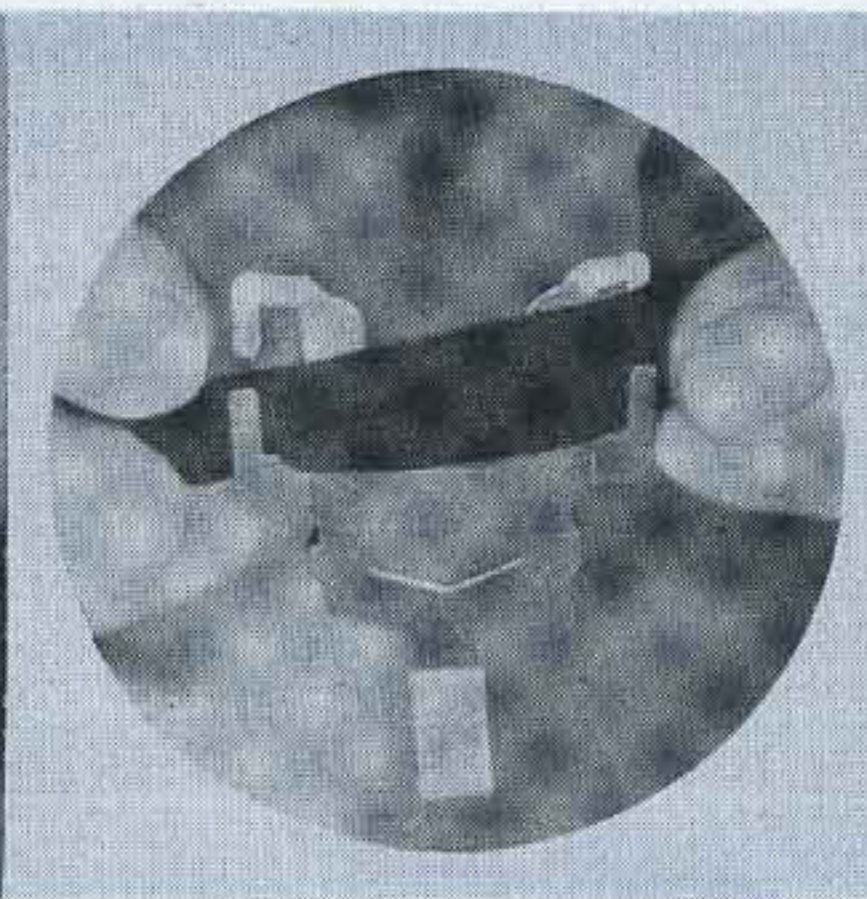
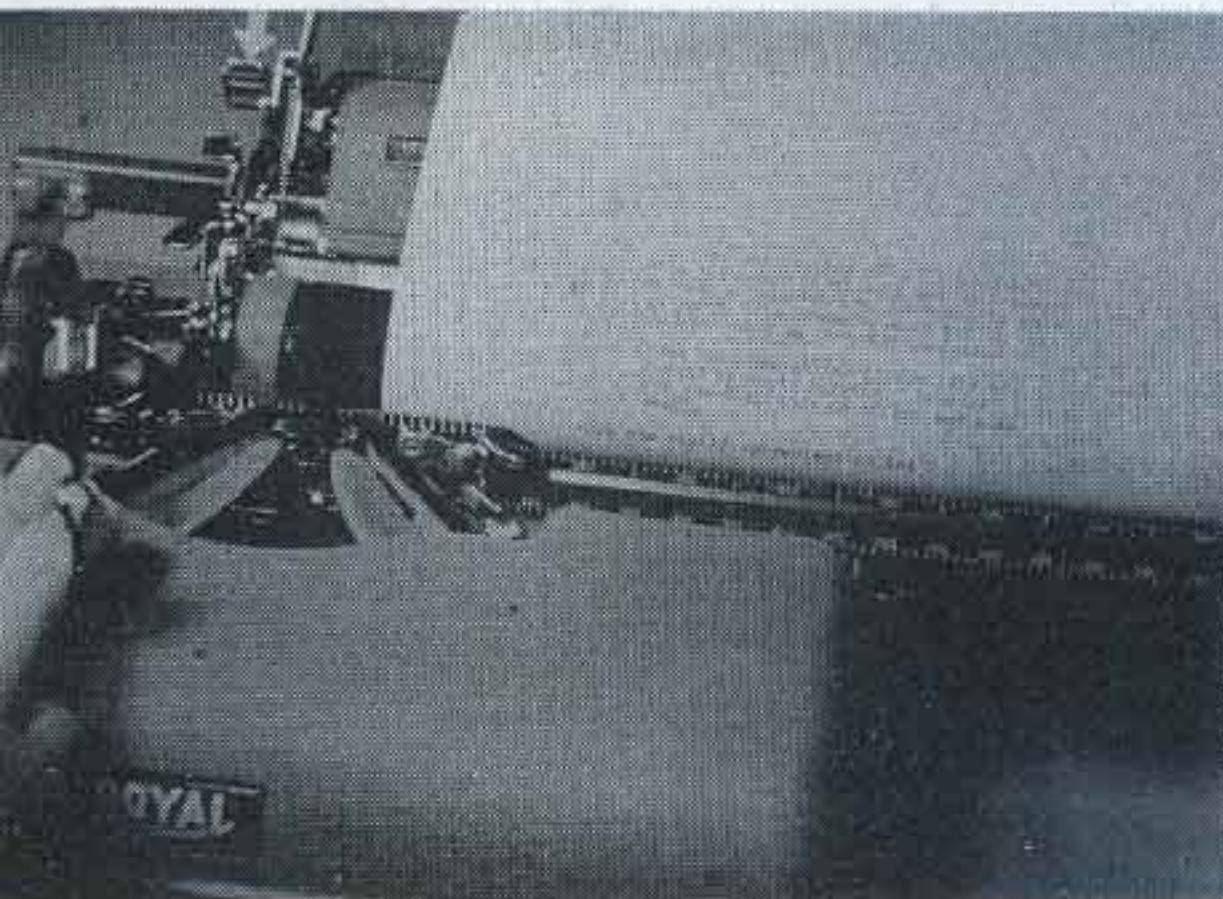
The image on the ground glass showed some reflections from the chrome surfaces. These were eliminated by checking the image as the lights were moved.

An extension tube was inserted for the proposed close-ups and there, again, was the exact image of what was wanted.

Picture below is one of 27 taken by A. F. Neuenhaus to use in selling and demonstrating Royal typewriters.

Slides like the one below are shown in teacher meetings and classrooms as training aid.

One of the problems in preparing the set of slides was to get the calibrations of scales in the color photo.



THE EXAKTA IN VISUAL EDUCATION

By ARTHUR F. NEUENHAUS

Parallax and focusing problems being non-existent with the Exakta, it does the job in a most precise manner without the need of a ruler or special accessories.

Composition was simply a matter of what had to be included in the picture. Experience with my Exakta has proved that I get exactly what the ground glass shows, whether shooting a landscape or a macrophotograph. What is more, I can work right up to the edges of the frame.

Now things were really ready to go. The color of the typewriter used is a soft grey. For background a shade of orange which afforded a pleasing contrast and which, together with the color of the typewriter, was well within the film's color range was selected.

In order to arrive at this exact shade, white crepe paper was stretched over the surface of a table top, then covered with orange crepe paper which, by itself, would have been a bit too dark. The translucency of this type of paper allowed the white base to tone the orange to the exact shade sought. Since all the shots were taken from an elevated angle, the tabletop covering afforded adequate background.

To point out specific parts of the typewriter, suitably sized arrows were cut out of a substantial white card stock and painted in contrasting colors. These arrows were fastened with fine wire and scotch tape to their appointed positions on the typewriter. The wire was hidden behind the arrow, of course, but its use permitted sufficient movement of the arrows to position them correctly.

In order that the typing photograph clearly, typed specimens

Continued on page 20

Color

PHOTOMICROGRAPHY

By DR. ROMAN VISHNIAC

Every amateur photographer realizes after a while that he has reached the frontiers of his camera's possibilities. From that point he is free to wander other paths, discovering the miracles of the medium.

The Exakta opens a new road to another world of the universe where not even the sky has a limit. The combination of a microscope and an Exakta brings into focus a new horizon, one that has something for everyone's particular interest.

Our food, clothing and skin, muddy puddles, flowers and plants, insects—wherever our look happens to fall—become objects suitable for unusual pictures, peculiar patterns and designs in photomicrography. Everyone becomes an explorer; everyone becomes a discoverer of grotesque beasts, strange forms and beautiful colors.

The versatility of your Exakta, best demonstrated by the ease with which it can be adapted for different purposes, is your best

friend on your trip of exploration. An inexpensive adapter (catalog No. 147) is the only equipment aside from the microscope necessary to transform the Exakta into a photomicrographic camera.

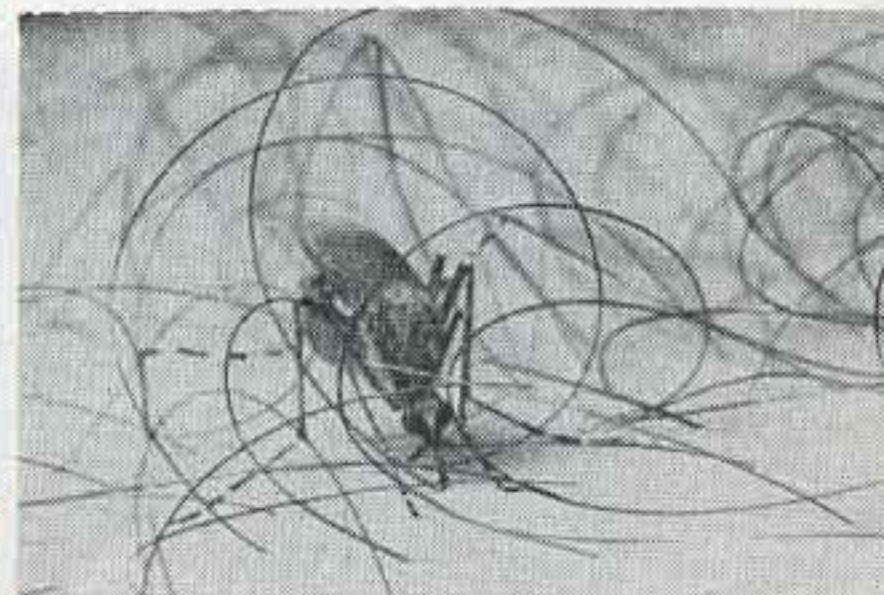
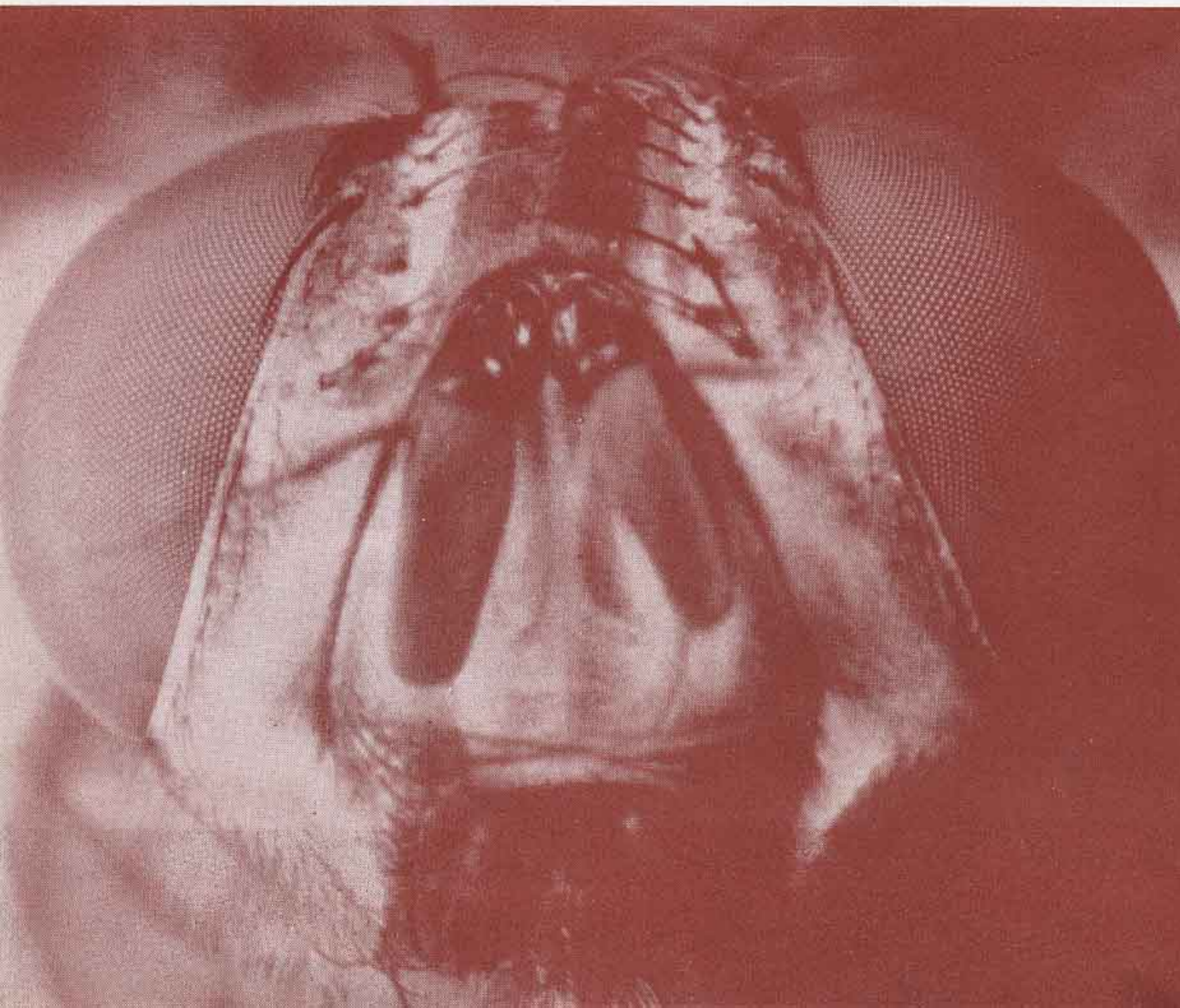
The greatest advantage of 35-mm. film size lies in the realm of color. The slow speed of color film bars its use in large size for making photomicrographs of living objects. It also is a tremendous handicap when objects are illuminated by weak light, such as emanates from reflected, fluorescent, ultra-violet, infrared or polarized lamps.

Peculiar as it may seem, 35-mm. color film is 52 times as fast as a sheet of 4x5 Kodachrome Type B or Ansco Tungsten Type Color film. This difference results from three factors.

To begin with, the 35-mm. picture (24x36 mm.) has only 1/13 the area of a sheet of 4x5 film. This is an important factor in film speed and, consequently, exposure, because very little light

With photomicrography, you can discover nature's fantastic shapes and forms, like one below. Even ordinary objects look strange and often terrifying through the microscope. This apparently ferocious monster is a housefly, head enlarged 20x in the negative. You can take such shots with your Exakta.

Mosquito feeding on hand was photographed 4x life size. Shots like this are possible with color, black-and-white film.



Your Exakta is ideal for photomicrography. Hinged Microscope Attachment (No. 147), shown below open and attached to microscope, is all you need to convert camera for photomicrography.



reaches the film in photomicrography and small differences in area create large differences in exposure. A 35-mm. picture requires only 1/13 the exposure of a 4x5 film sheet (the same relationship as the area difference).

In addition, the rated speed of Kodachrome and Ansco Color 35-mm. film is twice that of color sheet film. Therefore, this must be considered in comparing relative exposures of large and small color film.

Finally, by means of an optical phenomenon called the Eberhard Effect, a small transparency has greater density than a large one. When the difference between the size of the film is more than 13 times, the small film requires only half the exposure time of the large.

Multiplying all these factors together ($13 \times 2 \times 2 = 52$), we find that the difference in exposure is 52. This difference makes possible the short exposure with 35-mm. color film that is so important in photographing medical and technical subjects.

Light sources for color photomicrography vary greatly in effectiveness, intensity and price. The least-expensive is the 250-watt tungsten filament projection lamp.

Others that can be used include the ribbon filament lamp (recommended with correction filter), low voltage tungsten filament lamp, G.E. photomicrographic lamp, carbon arc and zirconium lamp made by Western Union requiring a power pack.

If the illumination is not handled properly, loss and washing out of the colors is the result. There are four causes of glare which destroys the color picture:

1. Tube glare, caused by reflections on the walls of the draw

tube. Restricting the illuminating beam by a field stop as required for controlled illumination is the best method of avoiding this.

2. Metal glare, caused by reflection of light from lens mountings. A collar placed around the objective is recommended.

3. Glass-air surface glare, caused by the reflection of light from the glass-air surface of the objective. To subdue this, coating the objective is recommended.

4. Slide glare, caused by the refractive properties of the slide glass. Eliminate it by using oil immersion objectives.

With good illumination, the usual exposure for Kodachrome Type A or Ansco Tungsten Type Color Film with a magnification of 300x is 1/50 of a second. Exposure in photomicrography is a matter of trial and error. Only by chance can you guess the right exposure. The best way to find it is to make tests.

If you keep the results of your tests along with an accurate record of your set-up and the type of object being photographed, you will build up over a period of time a file of information that will save time by giving you an approximation of the right exposure time.

Since the exposure depends upon so many factors, it is advisable to standardize as much as possible. The intensity of the light and the type of film should remain the same. The opening of the iris diaphragm in the microscope condenser should be the same each time you use a specific objective. The specimens which are to be photomicrographed should be classified into four different density groups.

In order to get an approximately correct exposure, some test pictures should be made on Panatomic-X film, which has a sensitivity close to that of Type A Kodachrome. You may find it helpful to use a reversal film instead of Panatomic-X. Kodak Direct Positive Panchromatic film will give a black-and-white positive when processed and has a speed about six times as fast as Type A Kodachrome.

Make your final tests on color film. Take three or four different exposures with each objective and density grade of sample specimen. These can later be used for reference and comparison.

Any good microscope objective can be used for microphotography. For best results, apochromats are essential. For color work, exact adjustment of the microscope is much more necessary than for visual observation.

For high magnification and oil immersion, a clear glass field is available for both the prism and the hooded finders of the Exakta. This field permits comfortable and speedy focusing with dark field illumination or on dark-stained slides.

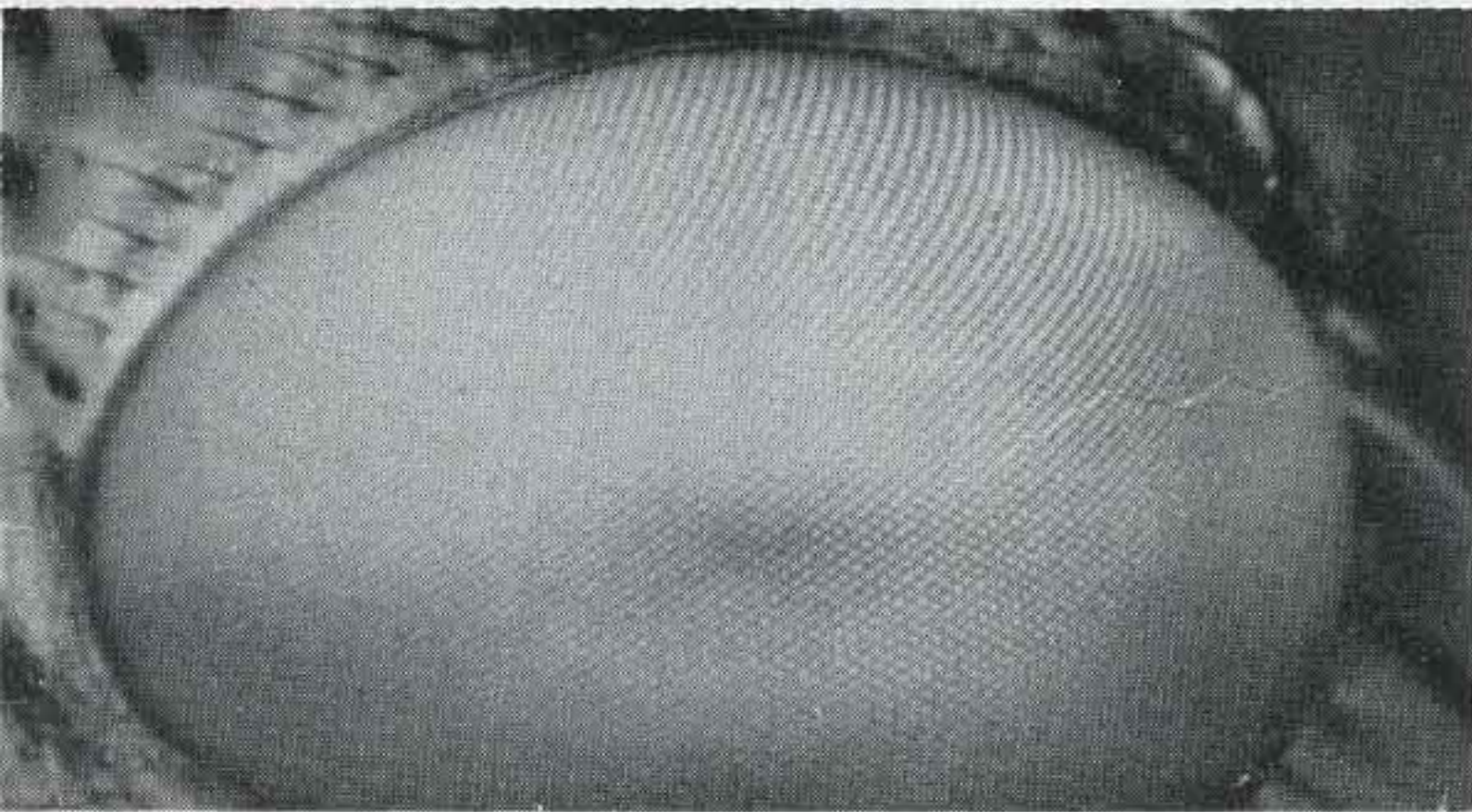
Several other kinds of special focusing glasses are available for the Exakta, each designed for a different type of close-up work. They are all designed to be installed in the hooded or prism finders, are unique and a tremendous aid to the scientific worker.

A plain ground glass is available for general work. This glass may be used with or without the magnifying lens of the finder. It should not be used with poor illumination because it transmits only about 20 per cent of the light.

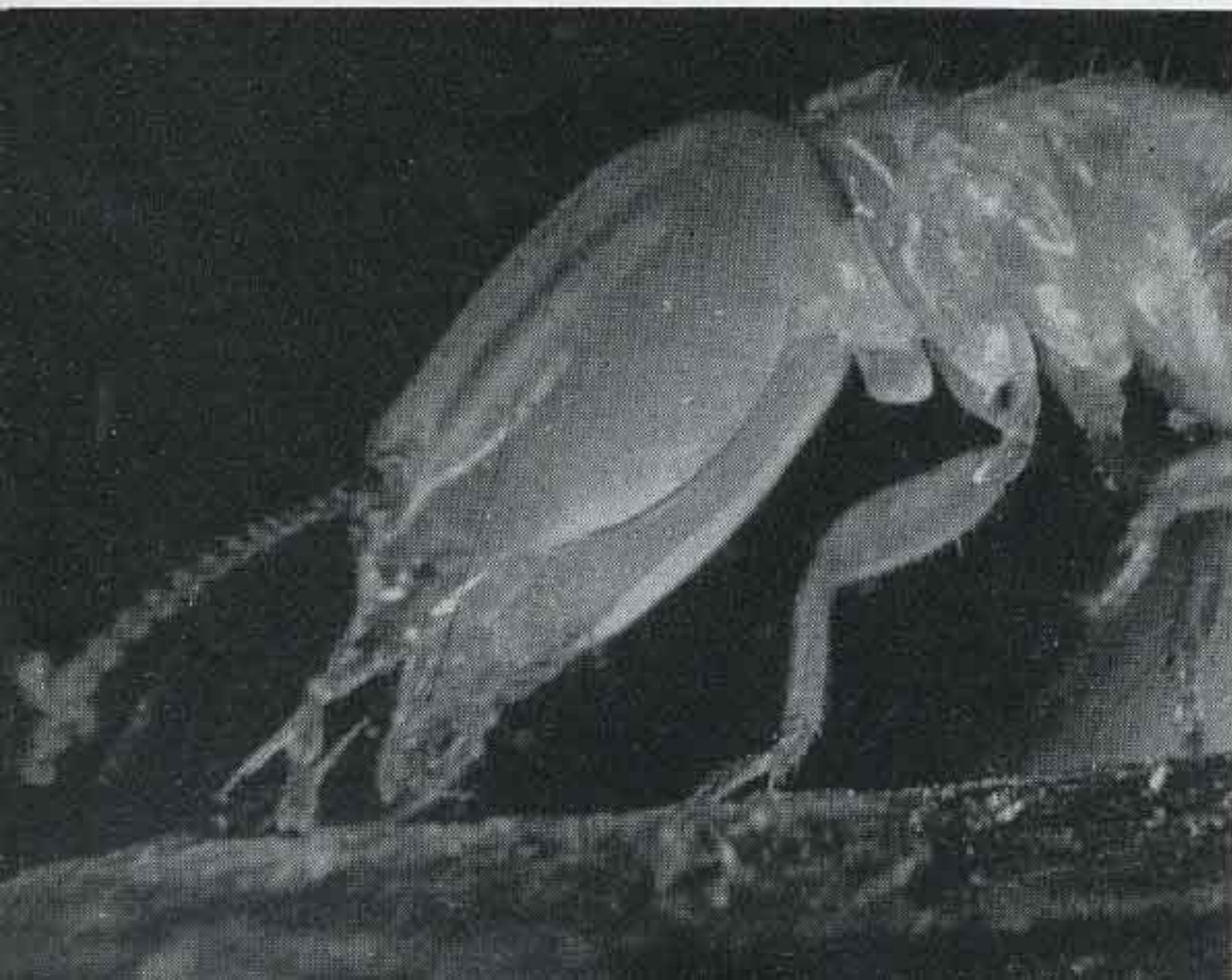
A similar glass with two lines at right angles to each other and bisecting the surface of the glass across and up and down is available for those who wish to center subjects and make gross measurements. The magnifying lens must be used with this glass.

A third glass with the bisecting lines divided into eighths and sixteenths of an inch may be obtained for fine measurement. Clear glass fields also may be obtained with bisecting lines either plain or divided.

Other combinations include a regular ground glass with a clear spot in the center for rapid work. This glass also comes with a center cross, two hairlines to facilitate centering. (See back cover of this issue.)



Many-lensed eye of a housefly (above) makes a weird picture. Image on negative is 30x life size. Photomicrograph of a termite at work (below) is 10x. All photos on this page were taken by Dr. Roman Vishniac by reflected light with an f 7.8, 1.5x objective on compound microscope. Lighting is key to good photomicrographs.



Equipment News

All equipment pictured here available from Exakta dealers



2-in-1 Adapter Ring

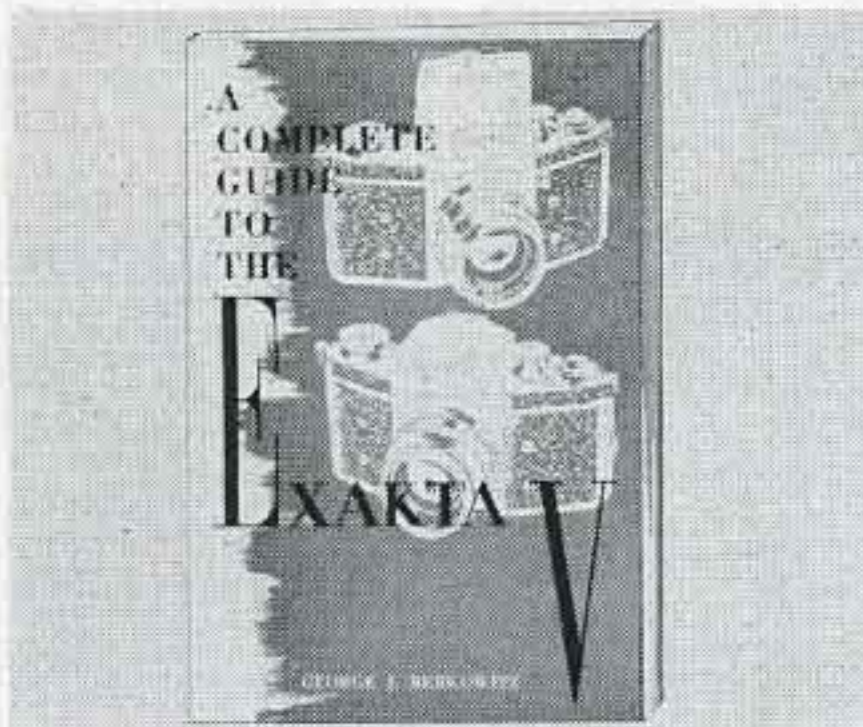
The CopyMat was designed according to the principles of the optical bench by outstanding specialists in the field of miniature photography and is the product of latest achievements in engineering and photography. A solid diecast metal base covered by 8½x13-inch opaque plyboard provides a rigid foundation, essential for copying. On each side of the base are adjustable metal copy holders, which provide the most accurate position for the objects to be photographed. Four bulbs, two on each side, furnish proper illumination for the subject. The bulbs are recessed below two cylindrically curved, adjustable reflectors with silvered inside surfaces. Each of the two sections of the lighting system is set on a "T" shape master arm of duraluminum, movable and adjustable to any position from 45° to 90°. The camera is attached to an elevator that can be adjusted to any height by a special lever and to any horizontal or diagonal position. To facilitate calculation of desired proportion of the copy, a scale calibrated in millimeters is attached to the CopyMat. Color enthusiasts will find this unit very useful. Made in Germany. Comes without bulbs\$110.50 (tax included)

Copymat for the 35-mm. Exakta

Here is the ideal unit for copying photographs, books, manuscripts, and other objects with your Exakta.



◀ The 2-in-1 Adapter Ring is the smallest extension ring available for the Exakta. A bayonet mount on one-side fits the camera lens opening, while a reverse mount on the other side fits the lens mount. Actual extension is 5-mm. Useful for close-ups, particularly copying\$10

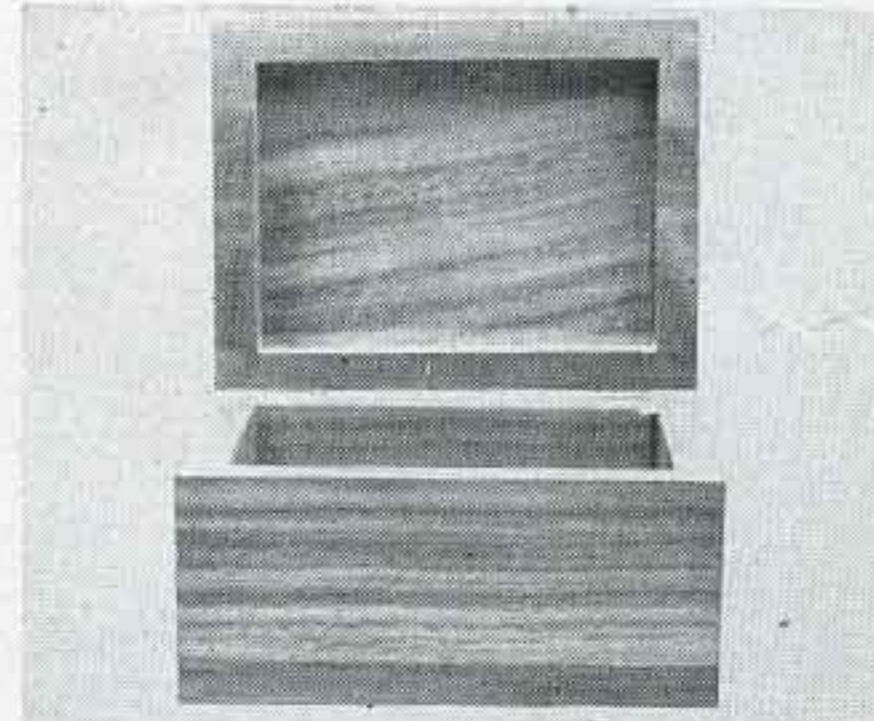
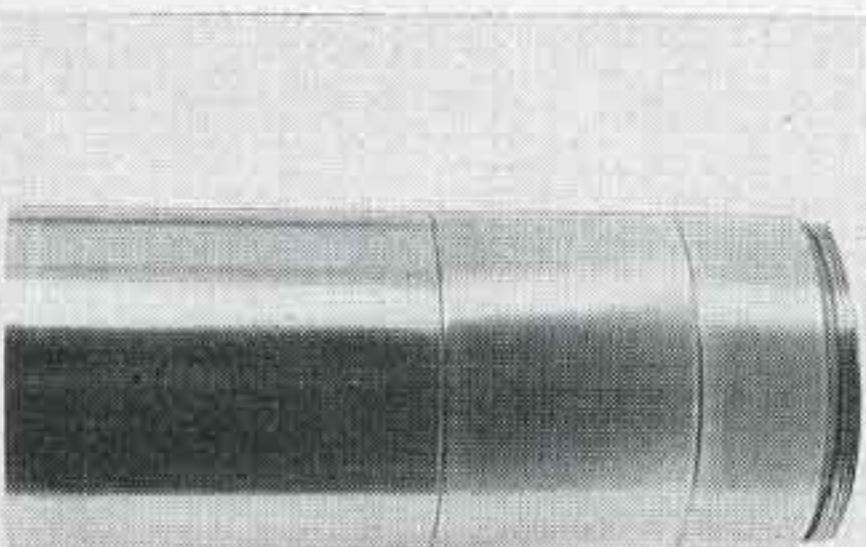


A Complete Guide to Exakta V

Here it is! The eagerly-awaited guide to the Exakta V is being welcomed by Exakta owners all over the world as the authoritative answer to their questions about the camera\$1.50

Long Extension Tubes

Chrome-finished extra long extension tubes to make your close-up photography easier. Set contains three tubes of 15-mm., 30-mm., and 45-mm. length, each with screw-in threads to fit other makes\$10 set

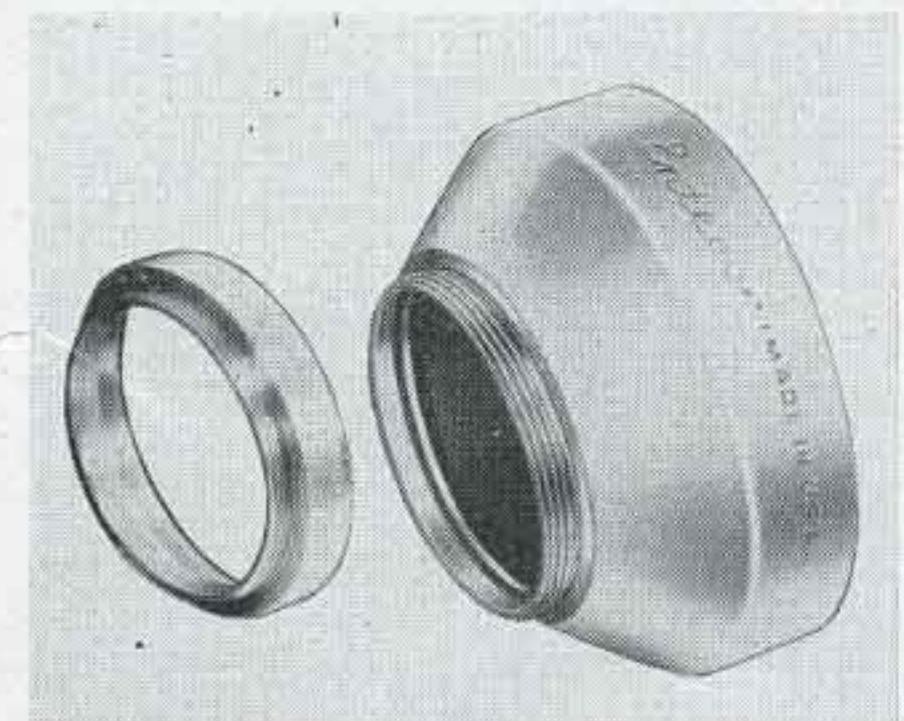
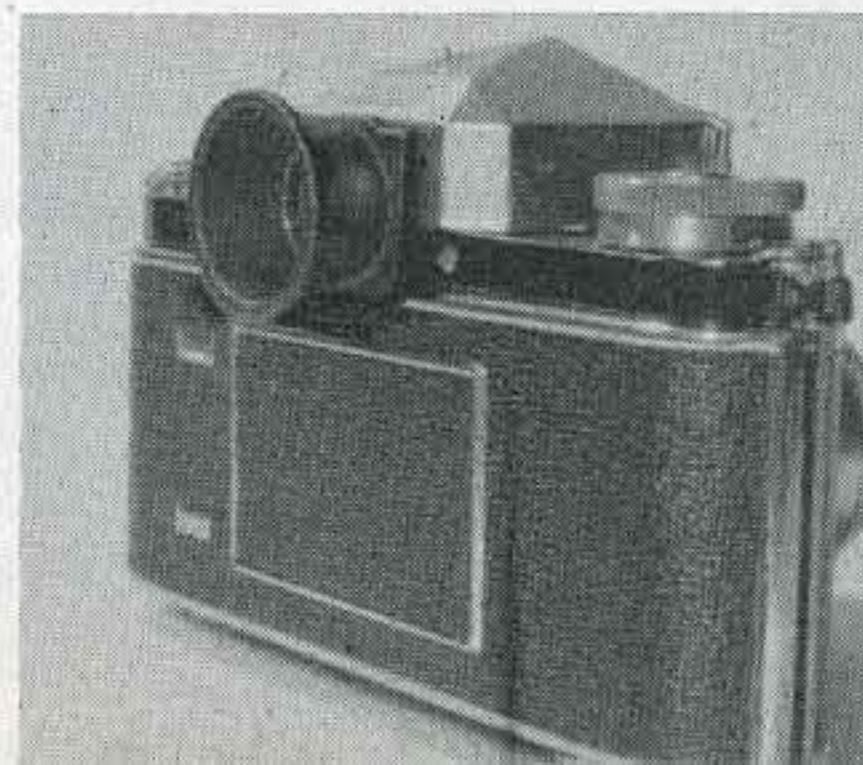


Box for Microscope Adapter

A beautiful instrument box, made of mahogany, designed to house your microscope adapter and keep it free from dust. May be used instead for filters, adapter ring and sunshade or other accessories\$2.70

Eyepiece for Penta Prism

To eliminate side reflections particularly annoying to spectacle wearers when Penta Prism viewfinder is used. Lens ground to owner's prescription may be inserted so glasses need not be worn for focusing\$3.50

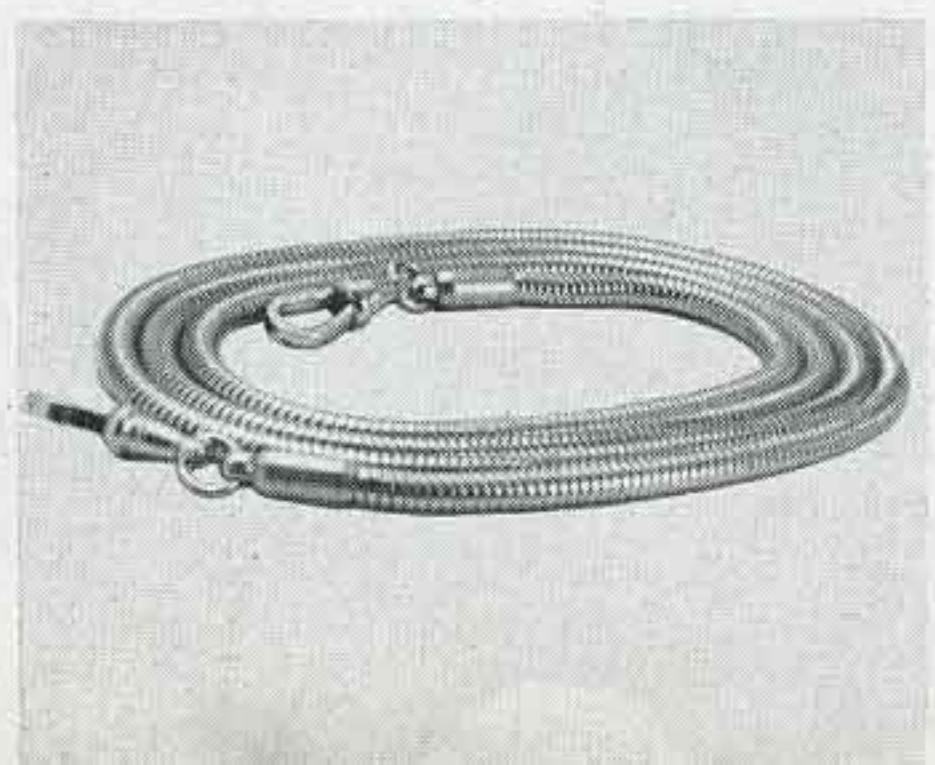


Adapter Rings and Sunshades

NOW AVAILABLE! Screw-in sunshades and adapter rings for long focal length lenses. Set for Angenieux Retrofocus or 75-mm. f 1.5 Zeiss Biotar lenses, \$8.76. Set for 135-mm. Zeiss Triotar and Steinheil Culminar, \$4.80.

Metal Neckstrap

A German-made, flexible metal neckstrap, designed to make camera carrying easy and comfortable and to speed picture taking. Beautifully finished, the strap is an attractive and invaluable accessory\$3.95



A DAY AT THE U.N.

By **NICK DE MORGOLI**

New York Photo Correspondent to Paris-Match, French news magazine.

The United Nations is one of the most fascinating subjects I have ever photographed. An atmosphere of international diplomacy, negotiations and intrigue surrounds the heterogeneous delegates and one cannot escape the feeling that history is being made while one shoots.

As the New York photo correspondent of *Paris-Match*, the French news magazine, I cover the U. N. regularly on assignment. *Paris-Match* is similar to *Life* and *Look*. Published in France (Paris), Switzerland and Belgium, it is one of the most important magazines in Europe with a circulation of 500,000 weekly.

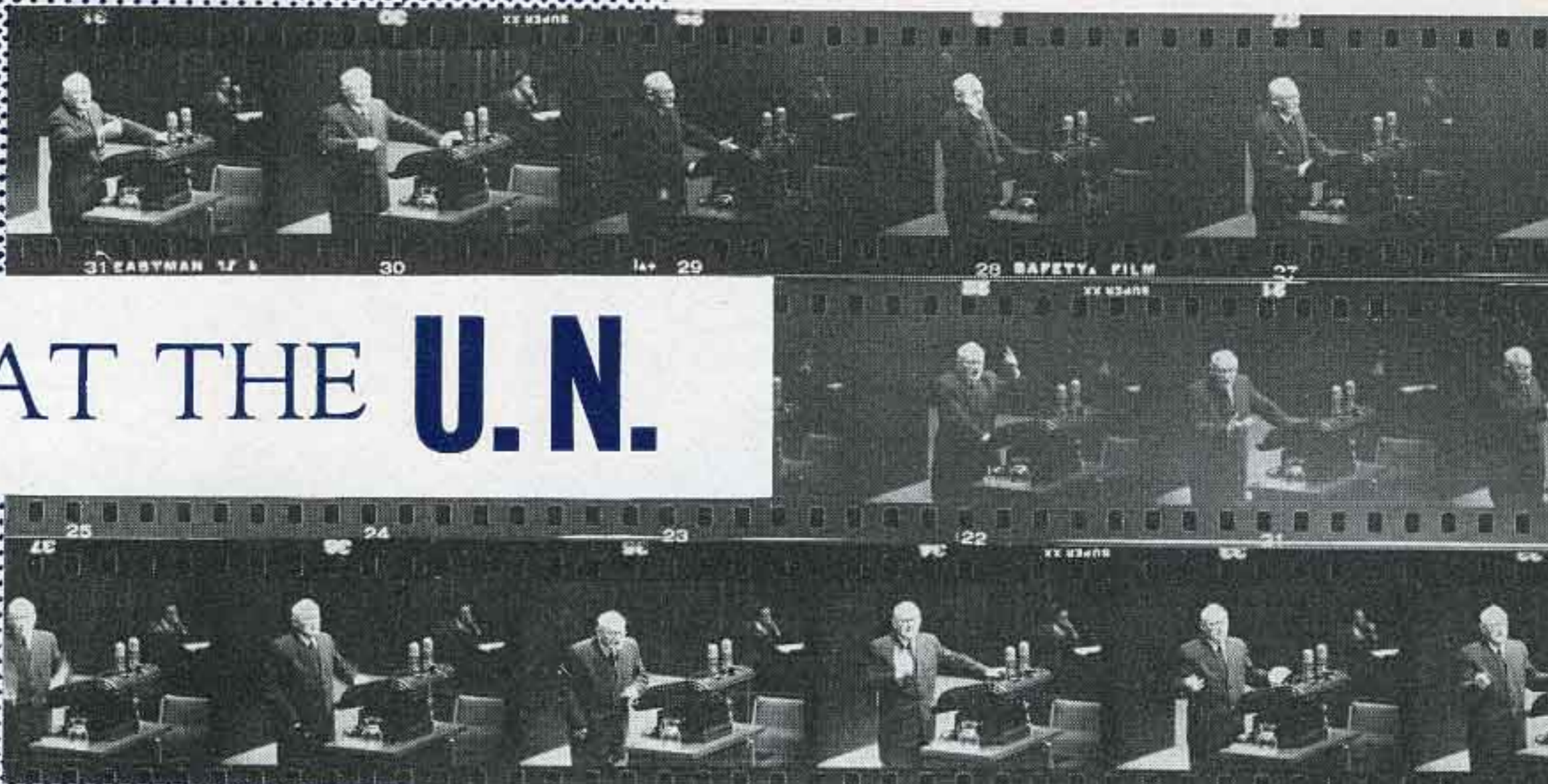
One of my many U. N. assignments was to photograph Yakov Malik, one of the Russian delegates, during the recent heated debates about Korea. This was a difficult task because photographers are not allowed on the floor of the meeting room during proceedings and because occasionally the light is not favorable.

These problems could be overcome only with the proper camera and lens. I found these to be the Exakta V with an f2.8, 180-mm. Sonnar lens. This lens would permit me to shoot fairly fast in order to catch Malik's expressions and bring his image as close and clear as I wanted it.

Looking around the meeting room, I found an excellent location in the booth reserved for the Mutual Broadcasting System and received a hospitable welcome. This spot gave me a perfect side view of the Security Council table.

I was shooting through a 5-inch thickness of glass, which isolates this booth from any exterior sound, and had to depend upon the spotlights of the newsreel cameramen for my lighting.

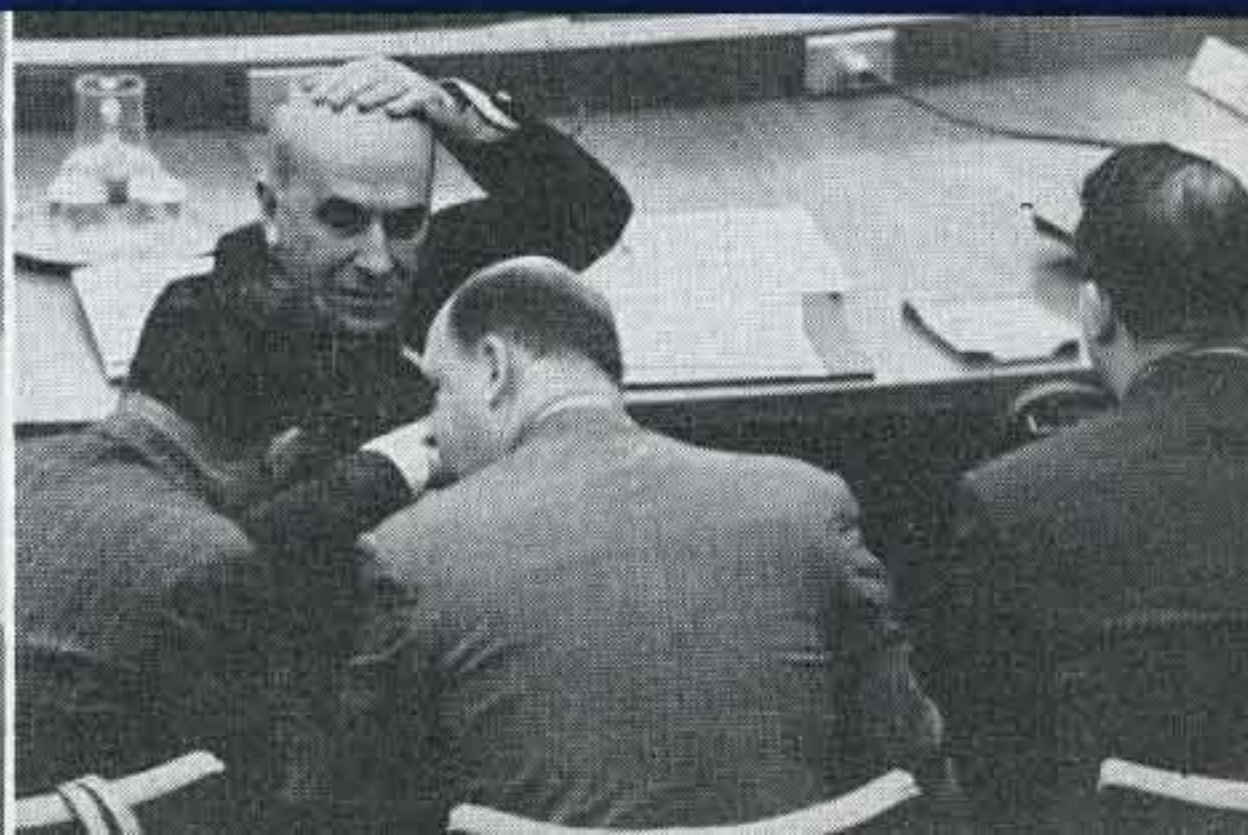
Huddle of delegates in lounge (right) shows there is no respite for the U.N. diplomat. De Morgoli caught another conference (bottom right) and South Korean Foreign Minister's expression (bottom center) with great skill. Shot of council room (bottom left) was taken with a 58-mm. lens on Exakta. Compare this photograph with the one upper right to see how a telephoto lens brings the scene closer.

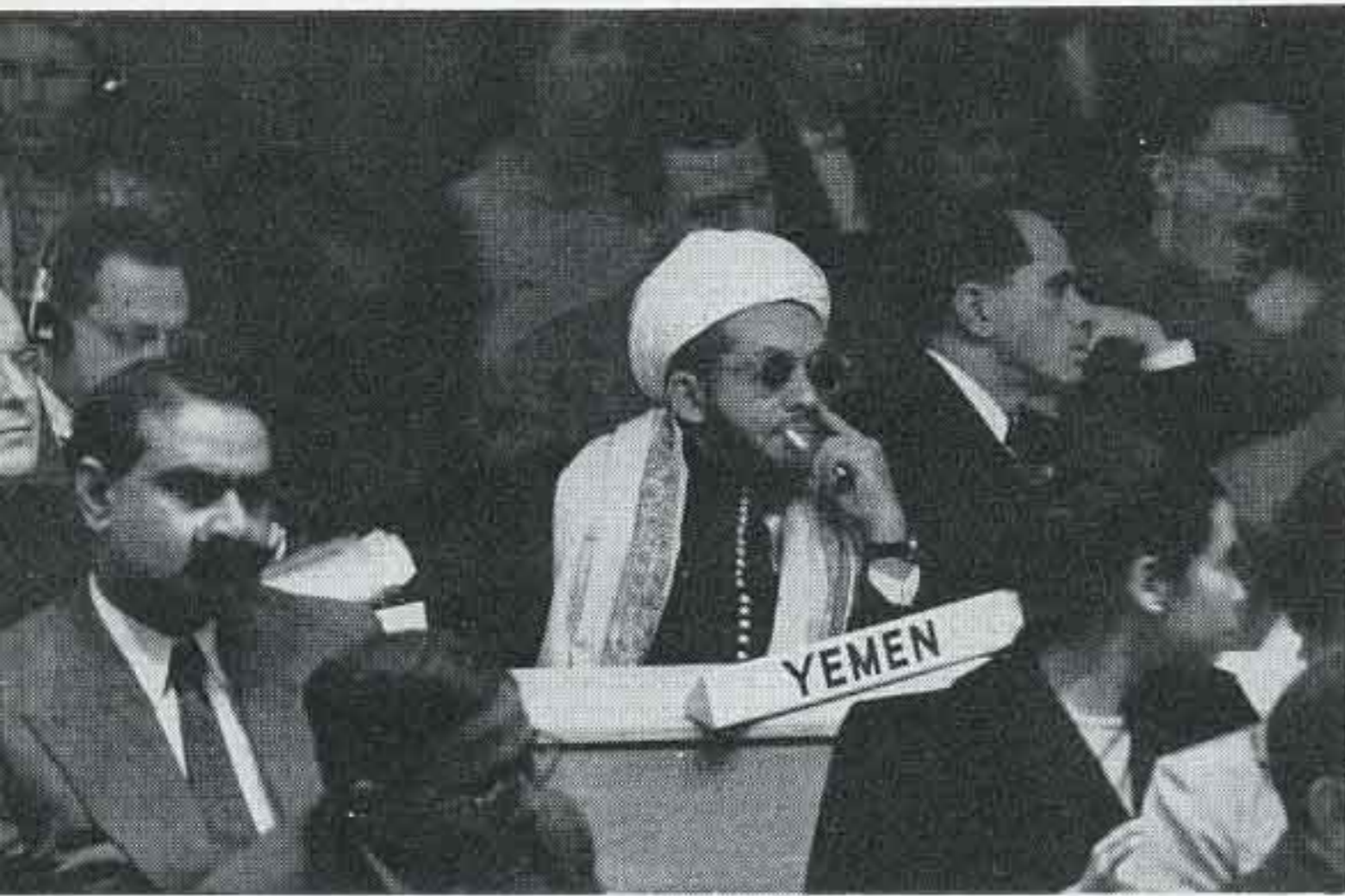


Action strip of delegate Andrei Vyshinsky (above), taken by Fons Ianelli, shows type of pictures to be found at U.N. headquarters.



Using an f2.8, 180-mm. Sonnar on an Exakta V, Nick de Morgoli, New York photo correspondent for Paris-Match, the French magazine, shot wide open to catch the U.N. Security Council in action. Two delegates look as if they are asleep, others look bored or detached.





East meets West in shot above by Fons Ianelli. Cigarette dangling from mouth of Yemen delegate looks incongruous because of his costume. Photos below, also by Ianelli: Warren Austin, U.S. delegate, conferring with Trygve Lie, U.N. secretary general (top, left); General Wu, chief of the Chinese Communist delegation on the Korean problem (top right); French delegate conferring with Englishman (bottom left); and Mrs. Eleanor Roosevelt, of the U. S. delegation.



This posed a problem, because my exposures depended upon them. At times I had to change my exposures in a hurry because they turned out their spotlights at the very instant I was ready to shoot, and vice versa.

My exposures were always made with the lens wide open. Some were made at 1/5 of a second; others, when all the lights were on, at 1/25 of a second.

I found the Exakta most satisfactory for this type of journalistic work. The Penta Prism viewfinder enabled me to see clearly and exactly what I would have on my film and even to determine my exposure, an advantage when you are far away from your subject as I was.

With the lens mounted on a Quickset tripod, I found I could get either a vertical or a horizontal picture in a second still seeing what I was doing and practically without changing anything in my original set-up.

THE EXAKTA IN VISUAL EDUCATION *(Continued from page 15)*

were done on a Royal Carbon Ribbon typewriter, which is equipped with a ribbon made of carbon paper. The carbon paper ribbon produces a sharp and intense impression, well suited for photography.

Three No. 1 floodlamps were used for lighting. Two of these were used with polished reflectors mounted approximately 24 inches apart on a single stand and individually adjustable for desired front light distribution. The other was in a matte (dull) reflector, with a clamp fastener for convenience in top or side lighting as required.

In some instances lighting was a compromise to avoid reflections, since no treatment of the chrome surfaces was used. In making each shot the magnifier was used to focus carefully, then the image on the ground glass was watched while the lens diaphragm aperture was gradually closed down for the required depth of field for that particular shot.

To me, the ability to do this is one of the fine features of the Exakta. Together with its depth-of-field scale (on the lens) and its other fine features, it means that here is a camera that can be depended upon to do everything but determine the exposure time. A light meter did that, but I always let my Exakta do the rest of the job for me.

I was very well pleased with the results when the finished slides were finally flashed on a screen. I set out immediately to put them to practical use and was welcomed to make their initial presentation before a group of 30 teachers of typewriting. To say that I was thrilled with the excellent reactions of these teachers is putting it mildly.

Since that first pleasant experience I have presented this program many times. Invariably the reaction is one that creates priceless good will for me, promotes a better appreciation of the fine features of my typewriter and makes me feel very grateful that photography is my hobby and Exakta is my camera.

FOR SALE

Like new Night Exakta (uses No. 127 size film) with leather ever-ready case and Biotar f 2, 80-mm lens.
Box W102, Exakta, 46 West 29th St., New York 1, N. Y.

Christmas Card Contest Winner Myrlin Wieder, San Gabriel, Calif.

The boxes and a small branch of evergreen with an ornament were photographed first. They were lighted with one floodlamp front and left and one on the background. The picture was enlarged to 11x14. Individual shots were taken of each of us, prints of the correct proportion made and pasted on the enlargement. The greeting was lettered and fitted into the master print. The finished paste-up was copied and the cards made by enlargement. The entire job was done with an Exakta with a Tessar f 3.5 lens and Plus-X.





NEW BOOKS

NATURE PHOTOGRAPHY WITH MINIATURE CAMERAS by Alfred M. Bailey, Denver Museum of Natural History, 64 pp., 50¢.

This fascinating narrative of the author's experiences while taking pictures in the field makes out a good case for the single-lens, 35-mm. camera. The text covers many different phases of nature photography and includes considerable technical data. Numerous illustrations, many taken with an Exakta and each annotated with the type of equipment used, make the book a valuable manual.

KODAK COLOR HANDBOOK, Eastman Kodak Co., Rochester, N. Y., \$4.

Any camera owner who shoots more than a roll of color a year will want this book. Kodak scientists, technicians and photographers have combined to produce one of the most informative and eye-appealing books on color photography that has ever been published. A companion of the Kodak Reference Handbook, this new volume follows the style of its predecessor. Four Kodak Data Books, punched to fit the loose-leaf binder, are included. They are titled: *Color as Seen and Photographed* (available separately for \$1), *Color Photography Outdoors* (50¢), *Color Photography in the Studio* (50¢), and *Kodak Color Films* (50¢).

YACHTSMAN'S CAMERA by Carleton Mitchell, D. Van Nostrand Co., Inc., New York, 148 pp., \$5.

This book tells the intriguing story of sailing in well-written text and beautiful pictures. It is more a diary of yachting than a photographic tome, but the author has included a brief camera primer for the beginner, and technical information on the photographs used whenever possible in the back of the book. One of the virtues of the book is that it avoids routine pictures and includes subjects any sailing enthusiast can photograph.

U. S. CAMERA ANNUAL 1951, U. S. Camera Pub. Corp., New York, 420 pp., \$6.50.

This is one of the best collections of photographs in the Annual's series, largely because of the sections on Korean fighting and international photography. The Korean section includes the wonderful work of such *Life* photographers as David Duncan, Carl Mydans and Hank Walker. As in several previous issues of the Annual, the international section dominates the volume. By contrast, the American pictures sometimes seem shallow and sometimes pointless. A section on cats, of dubious interest, one on photography in science and reproductions of the much-heralded, newly discovered Brady pictures also are included.

THE COWBOY, photos by Leonard McCombe and material for text by John Bryson, Picture Press Book, distributed by Garden City Books, Garden City, N. Y., \$1.

The flavor of the West and the story of the men who ride the range have been captured beautifully by Leonard McCombe,

who shot this story for *Life*. Many of the pictures in this book did not appear in the original *Life* article. It is unfortunate that bad reproduction spoils an otherwise splendid book by a sensitive, fine photographer, but this should not deter anyone from buying it because a good deal of photography can be learned from studying McCombe's pictures.

CAUGHT IN THE ACT, Picture Press Book, 50¢.

Some great and many good candid pictures of recent years have been gathered for this little book, but their impact is considerably lessened by poor reproduction and static, dry layout. Nevertheless, if you want to see pictures that have wide interest and some of the funniest shots of recent years, this book has them. An amateur can learn something about being alert when carrying a camera from this book.

PHOTOGRAPHIC OPTICS by Allen R. Greenleaf, The Macmillan Co., New York, 214 pp., \$5.

If you have any questions concerning the technical aspects of photographic lenses, this book undoubtedly has the answers. In a competent but technical manner, the author discusses lens theory, aperture stops, resolving power, aberrations, lens testing, focusing, shutters, exposure, perspective printing, slide projectors and stereoscopy with thoroughness. He describes the different types of lenses now used and comments on their merits and deficiencies. Unfortunately, the book is too technical for the average camera owner. To follow it, some previous knowledge and reading about optics are necessary. However, it can be useful to anyone who wants information, particularly because of the valuable data on new lenses. A classification of lens types with drawings to show the elements, in the appendix, is an especially useful feature.

BETTER PRINTS, Vol. E in the Camerette Photo Library, The Camera, Baltimore, 192 pp., \$3.50.

This is the fifth volume in *The Camera's Photo Library* series. The other volumes are titled: *Portraiture*, *Better Negatives*, *Photography Outdoors and Photography Indoors*. The material for these five books all comes from the pages of the magazine's *Camerettes* and, according to the publishers, has been revised and enlarged. In the book on *Better Prints*, there are separate chapters on 11 different subjects, including *Photographic Enlarging* by John S. Rowan, *Contact Printing* by Grace Hooper, *Paste-up Montages and Retouching Techniques* by H. Lou Gibson, *Print Contrast Control* by Joseph Foldes and *How to Make and Use Texture Screens* by Mark Mooney Jr. The text in this volume, just as in the others, is excellent and anyone who wants to learn to print can do no better than to read the advice of these people. But don't pay too much attention to the pictures used as illustration, particularly in the Salon Section. It's a shame that so much technique is wasted on so little subject matter.

THE AMERICAN ANNUAL OF PHOTOGRAPHY—1951, Edited by Franklin I. Jordan, American Photography, Minneapolis, 220 pp., \$3.

This is the 65th issue of this annual and, as far as one can see, is about the same caliber as previous issues in recent years. Only one narrow field of photography, pictorialism, is exhibited in this annual. There are the same nudes, hands clasped in prayer, bearded men, misty scenes and water shots as always. The articles seem to repeat what has been published before, as if photography hasn't advanced since the '90s. But if you belong to the pictorialist school, this undoubtedly is the book for you.

Any of the above books may be obtained by sending your order and remittance to

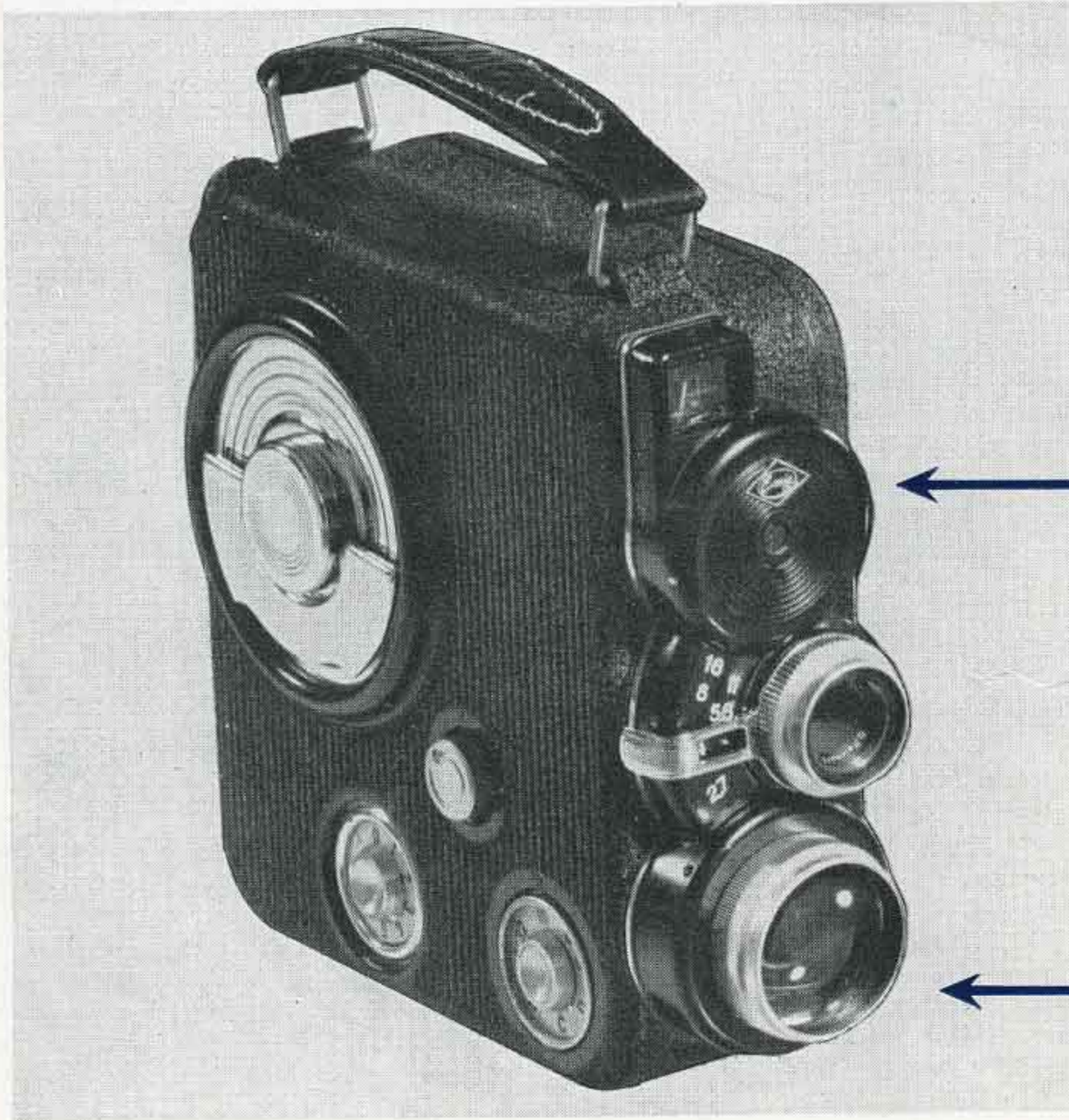
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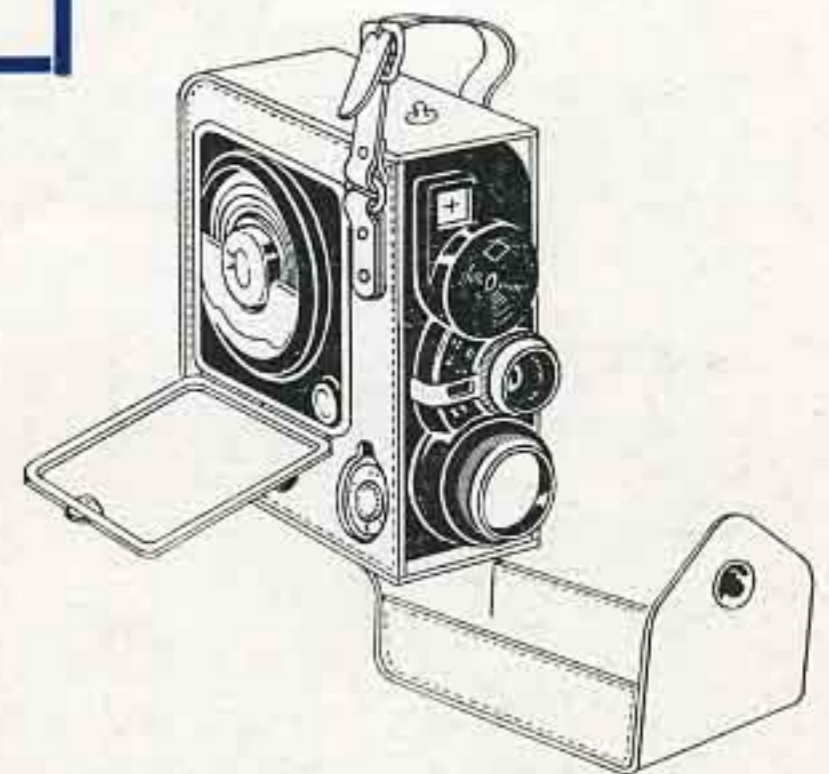
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With the Eumig 88, for the first time movie camera operation has been simplified to the point where it is as easy as pushing a button. This has been made possible by the revolutionary **AUTOMATIC APERTURE CONTROL**, a new mechanism that thinks for you. You no longer need worry about correct exposure with the Eumig, nor do you need to carry an exposure meter. The **Electric Eye** measures the available light at all times and shows you whether the lens aperture is correctly set. The **Electric Brain**, directed by a touch of your finger, automatically sets the correct aperture when necessary.

ELECTRIC BRAIN

A photoelectric cell automatically measures the available light and activates a pointer in the camera's viewfinder. This **Electric Eye** works automatically at all times. The pointer, your guide to correct exposure, is visible at all times, even when the camera is operating. If the pointer is not centered, you know instantly that the lens aperture (f stop) is incorrect. When a change is necessary, a touch of your finger causes the **Electric Brain** to open or close the aperture until the pointer in the viewfinder is centered, indicating that the aperture is correct for the available light.

ELECTRIC EYE



Beautiful leather ever-ready case is available for the Eumig 88 for \$10. Hinged panel and openings at the side permit easy access to motor winding key, film release and footage and speed indicators. Openings at rear of case permit access to cable release socket and viewfinder. Case must be removed to load and unload film.

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EXAKTA PICTURES

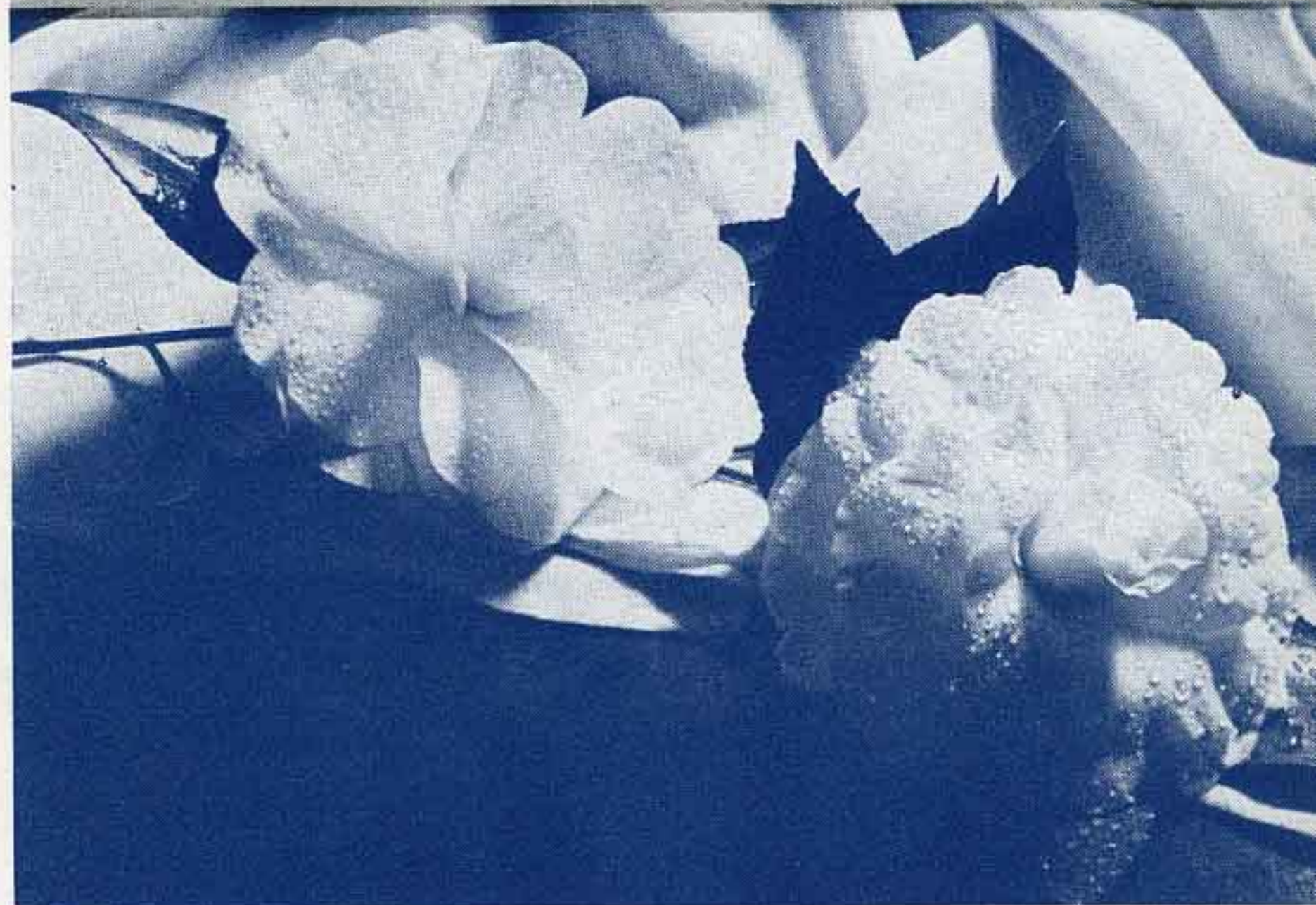
Readers are invited to submit photographs for this page. We will pay \$5 for each picture published. Photographs are acceptable in any size, whether your own printing or that of a photofinisher, but must be accompanied by complete technical information. If there are any persons who can be identified in your prints, a release signed by each individual authorizing the use of the picture in advertising must be included. Address pictures to Editor, Exakta, 25 Jones St., New York 14, N. Y. Include return postage.

The portrait below is a reproduction from a color transparency by K. H. Chang, of New York City. He used Kodachrome Type A film to make the original picture, exposed at 1/100 of a second with the lens stopped down to f8. A No. 6 flashbulb supplied the light for the picture.

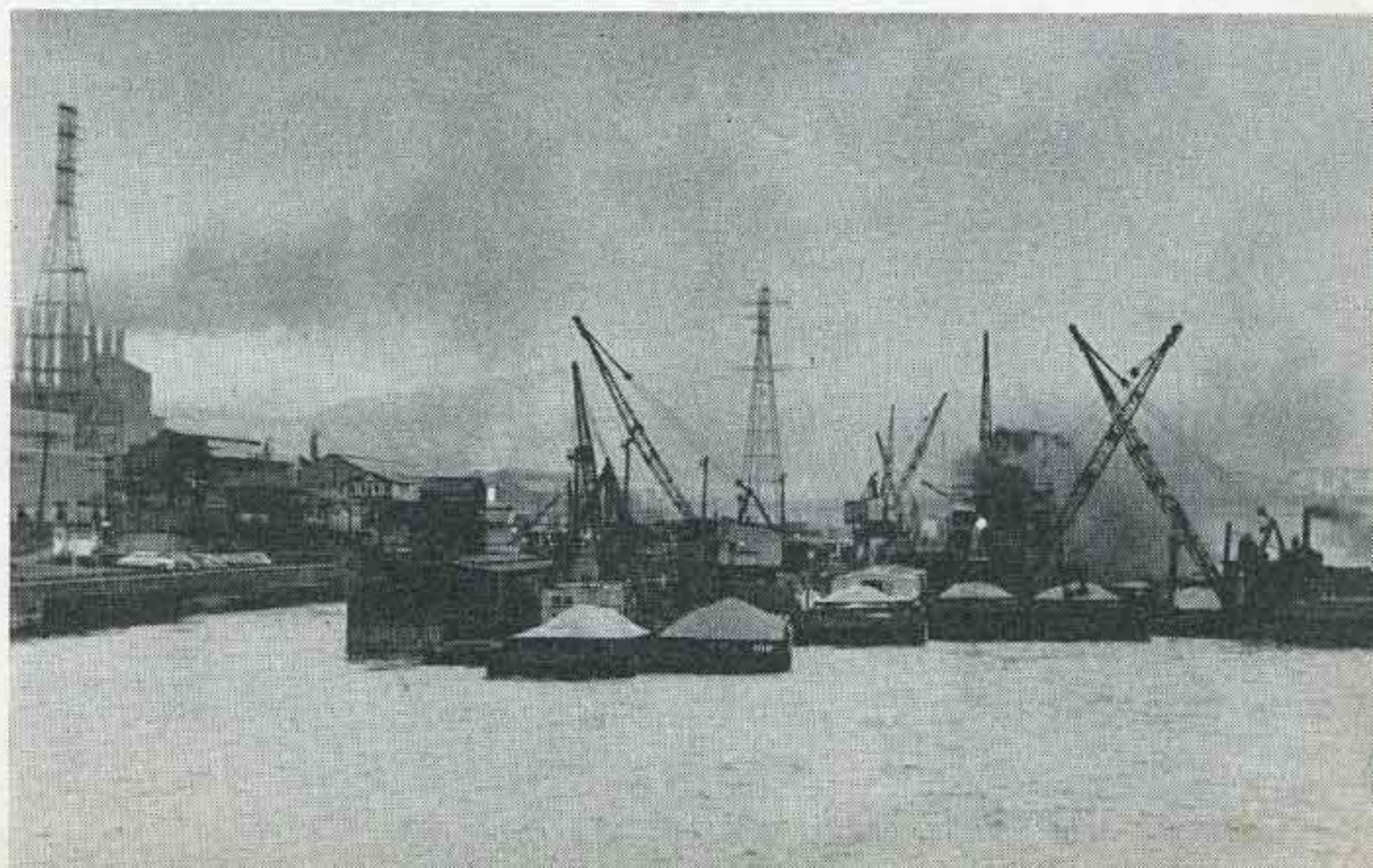
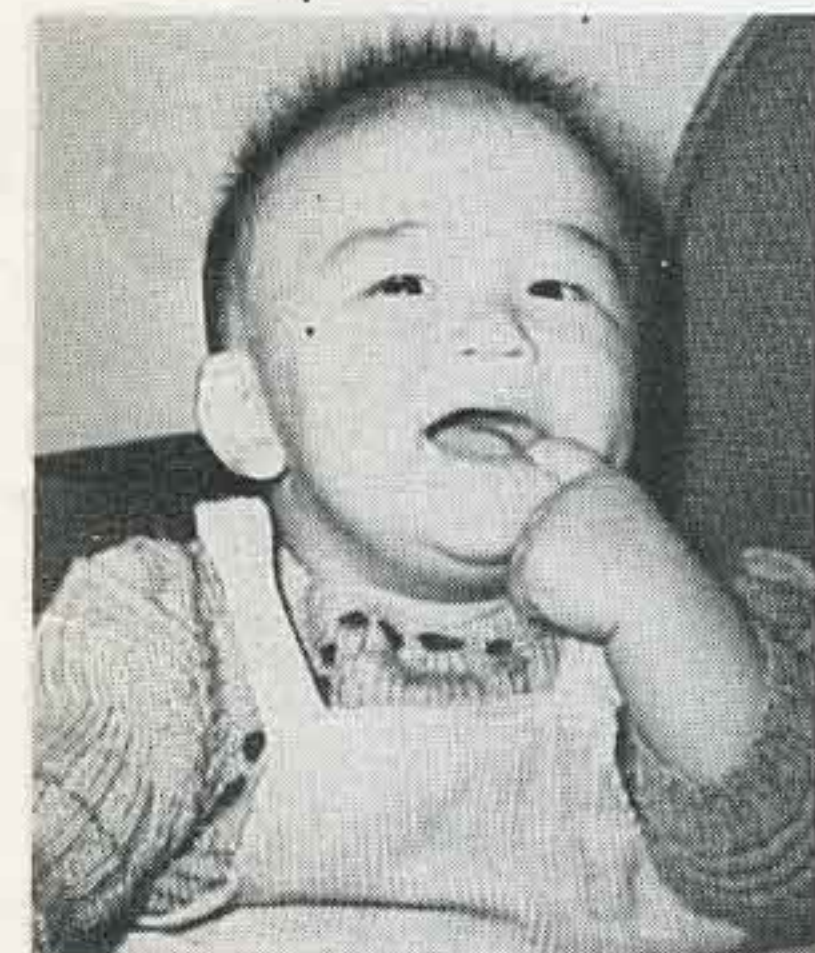
This lovely nude was photographed by William W. Irelan, of New York City. The film was exposed at 1/500 of a second with the lens stopped down to f8. For shots like this one, where little depth of field is required, it is advantageous to open the lens diaphragm as much as possible and shoot fast to stop motion. Use a meter to judge exposure because the sand reflects much light and the eye cannot estimate it well.

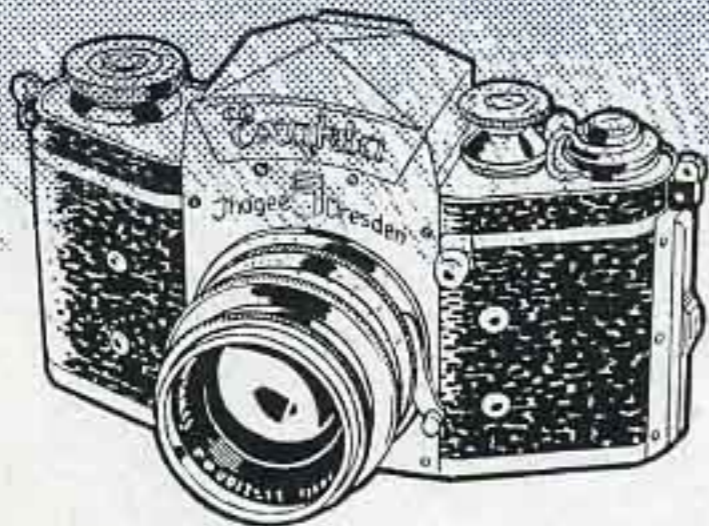
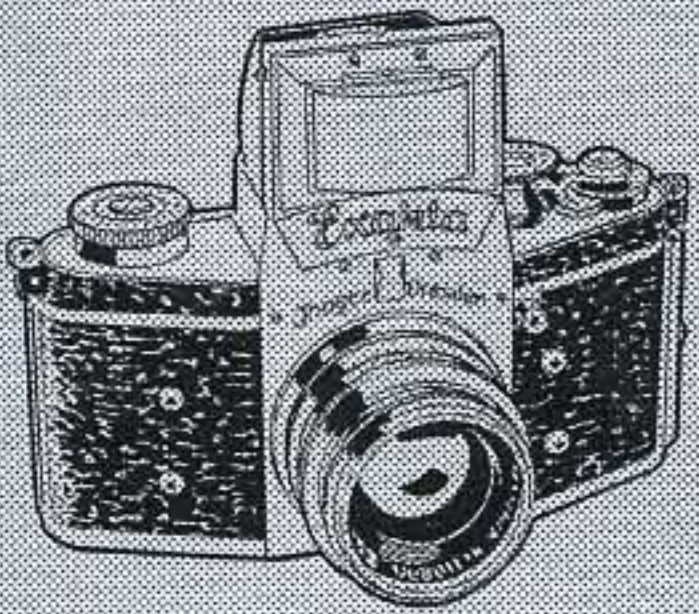
Flower photographs, such as this one by Dr. Reid Davis, of Auburn, Ala., are relatively easy to take with an Exakta. The exact picture you will get can be seen before you snap the shutter by means of the hooded reflex finder. If taken in color, flower pictures may be copied on black-and-white film to obtain interesting effects. Increase exposure for such close-ups.

Like silent sentinels these snow-covered trees menace the traveler atop Big Mountain, 7,000 feet high. Forrest C. Rockwood, of Kalispell, Mont., shot this picture on Plus-X film. He exposed at 1/250 of a second, f16 aperture.



Barges and derricks along the Pittsburgh waterfront make an interesting subject for Thomas Jarrett, photographer in the public relations department of the University of Pittsburgh. He used Panatomix-X film and exposed for 1/100 of a second with his Biotar lens stopped down to f22 on a cloudy-bright day. He developed the film in Minicol. Waterfront photographs, like those taken on beaches and other surfaces reflecting considerable light, require short exposures and small lens apertures to prevent overexposure. Use a meter to determine correct settings.





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EXAKTA V . . . the miracle camera

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With the Exakta V, you can keep film in your camera while you are changing the ground glass, impossible to do with other cameras. There now are available a complete line of special focusing glasses for the Exakta for close-up work and photomicrography. These unique glasses are a tremendous aid to workers in these fields. Clear glasses, for example, are essential in photomicrography because they allow easy focusing at magnification of more than 150x. Bisected glasses simplify centering of the subject in the picture area. These special focusing glasses can be furnished with the camera or installed later in either a Penta Prism or hooded finder at prices ranging from \$6.95 to \$29.50.

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- Penta Prism Viewfinder...\$68.50*†
- Ihagee Microscope Adapter...\$29.50
- Original Ihagee adapter ring and extension tube set.....\$24.00
- 2-in-1 adapter ring.....\$10.00
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