

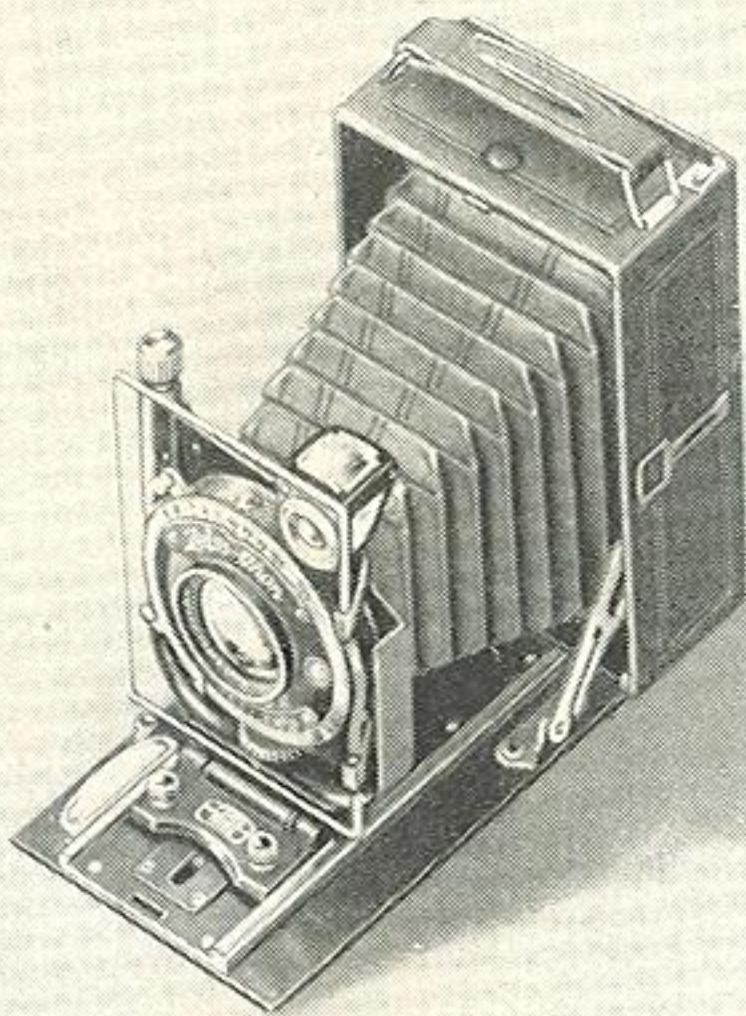
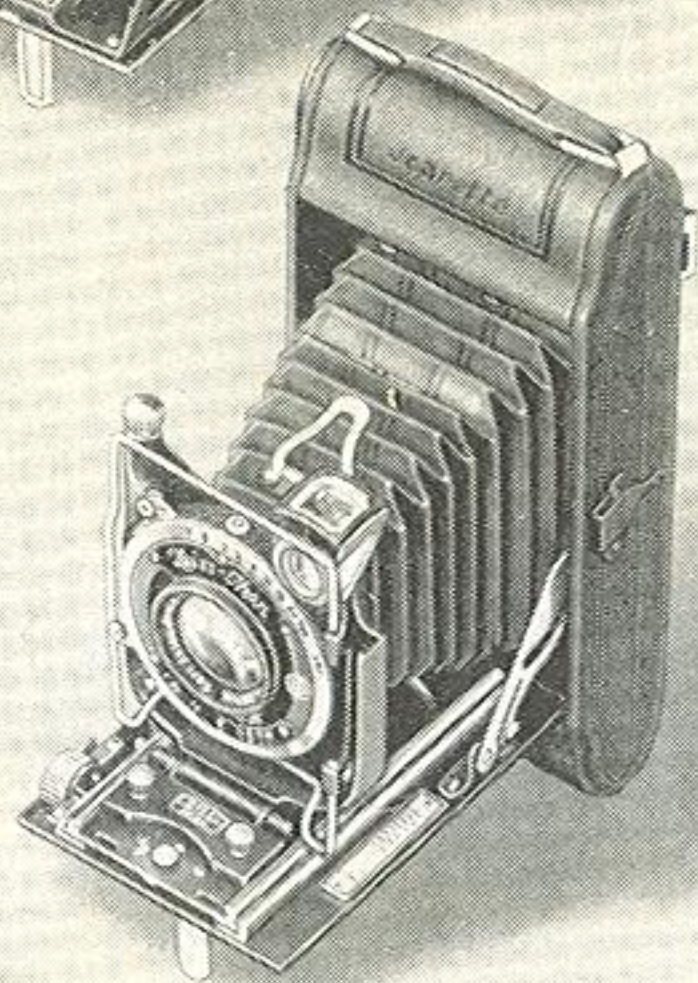
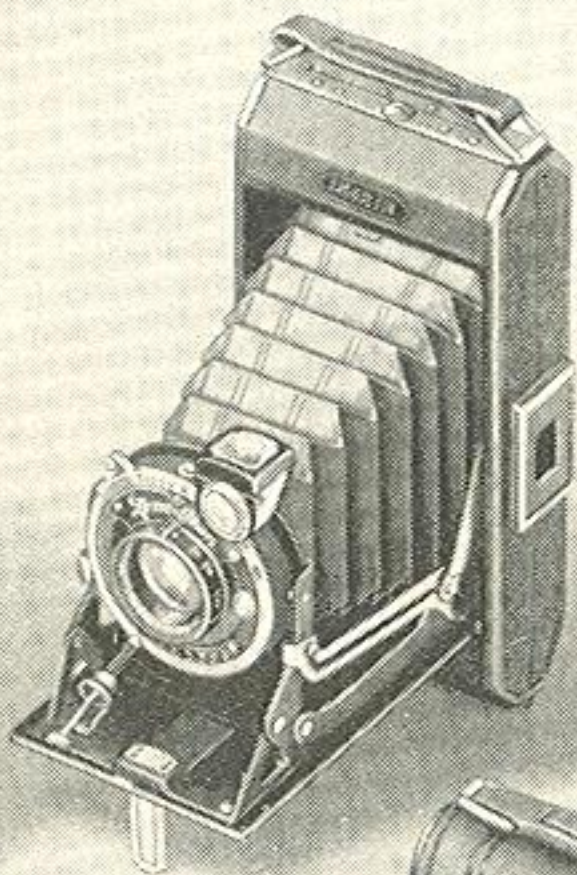
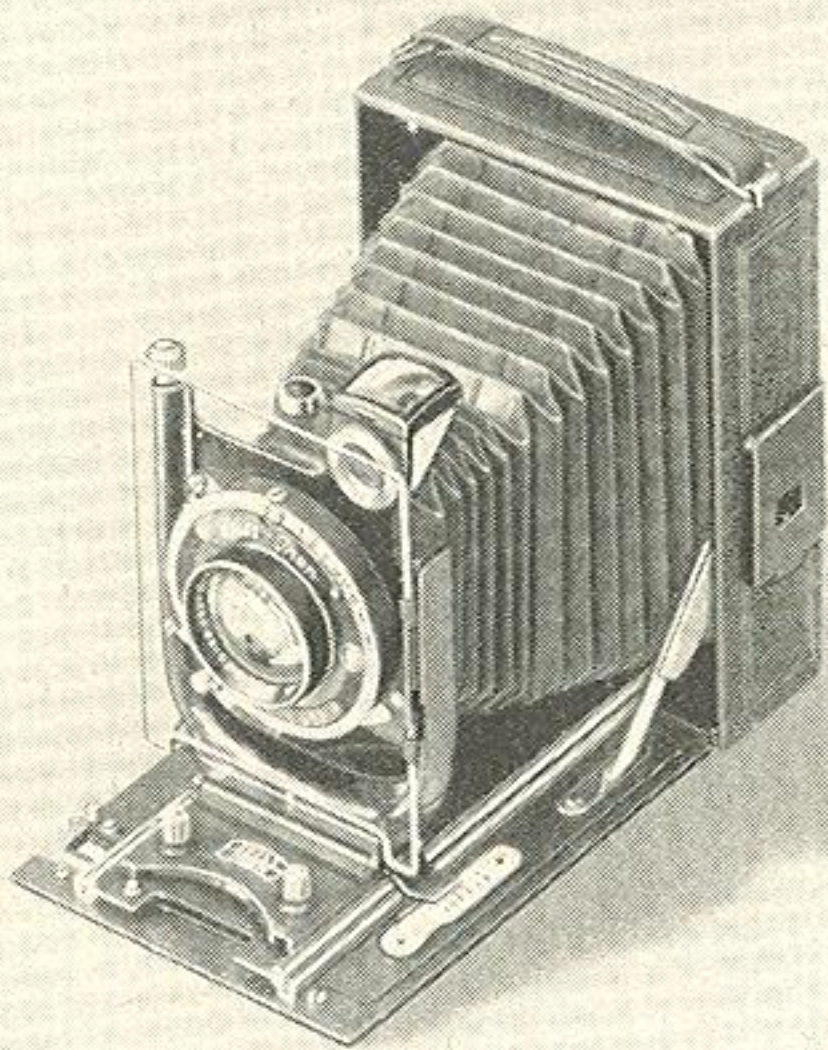
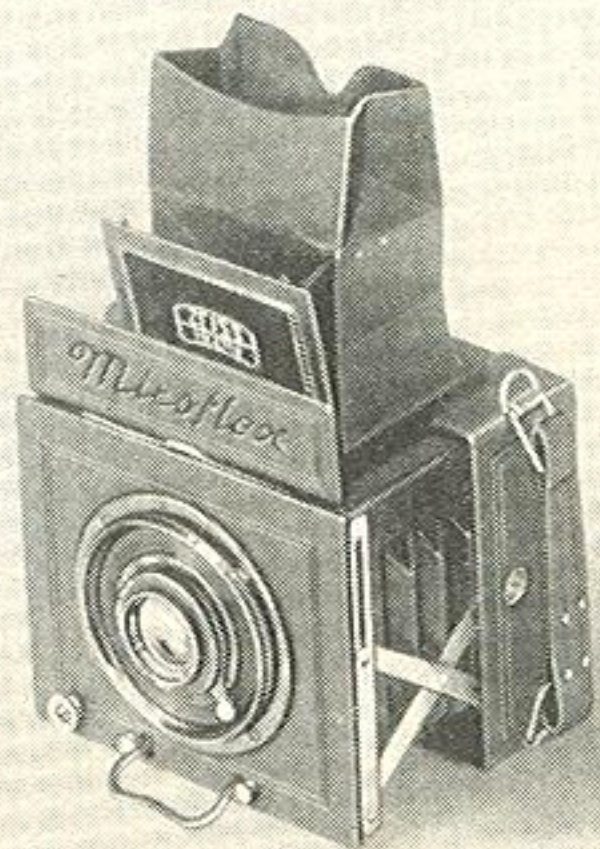


*Leiss
Skon
Cameras*

Zeiss Ikon Cameras



C 432



ZEISS
IKON



CHOOSING A CAMERA

Zeiss Ikon is the merger of the former firms of Ica, Contessa-Nettel, Ernemann, and Goerz, Europe's largest and best known camera manufacturers.

The following pages will give you a clear idea of the construction and features of Zeiss Ikon cameras. Their excellent optical equipment as well as their superior construction have made them the favorites of camera enthusiasts throughout the world.

Question of Price: An examination of the specifications and prices given in this catalog will show you that the price of a Zeiss Ikon camera is dependent, to a large extent, on its optical and shutter equipment. An inexpensive camera with a poor lens will result in a high percentage of wasted materials, and will be far more expensive in upkeep than a Zeiss Ikon camera.

Size of Picture: Zeiss Ikon Cameras and Carl Zeiss Lenses give such excellent definition that enlargements even from smaller sizes up to 11×14" and larger can be made. You can invariably make splendid enlargements from negatives made with Zeiss Ikon cameras.

Films and Plates used in Zeiss Ikon cameras are of standard American sizes. Cut films may be used in plate holders with the aid of cut film sheaths. — Tripod sockets have standard thread; focusing scales are marked in feet, and diaphragm markings are in the familiar F system.

Lens Equipment: The quality of a negative depends to a large extent upon the optical performance of the lens fitted to the camera. All Zeiss Ikon cameras, no matter what their price, have lenses of the highest grade in their respective classes. With the exception of a few models

ZEISS TESSAR LENSES

made by Carl Zeiss, Jena, are standard equipment. See page 15.

A completely equipped service department is maintained in New York, where all necessary parts are stocked, and repairs made by expert mechanics.

Zeiss Ikon Cameras

GENERAL CONSTRUCTION FEATURES

Camera Body

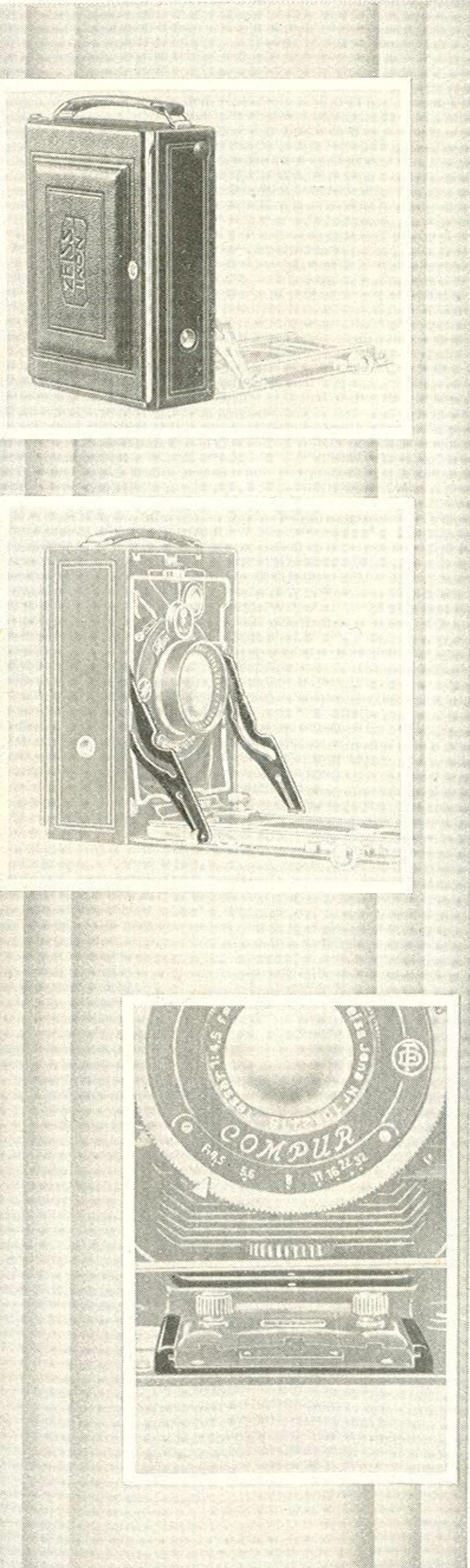
Zeiss Ikon camera bodies are made of one piece of light metal covered with leather and equipped with leather bellows. The Junior models, however, are covered with leatherette.

Camera Struts

The camera struts are constructed of sturdy, light metal which insures rigidity and are held securely in place when the camera is extended. The struts fold compactly in the camera with slight pressure.

Shutter

Most of the cameras are equipped with the new improved type Compur Shutter with self-timing device allowing the photographer approximately 12 seconds to get into his own picture before the exposure. The well-known Compur Shutter works with great accuracy both at slow and high speeds. The speeds are engraved on the shutter ring in clear, bold figures so as to avoid all error when setting the shutter.



Zeiss Ikon Cameras

Hinged Standard

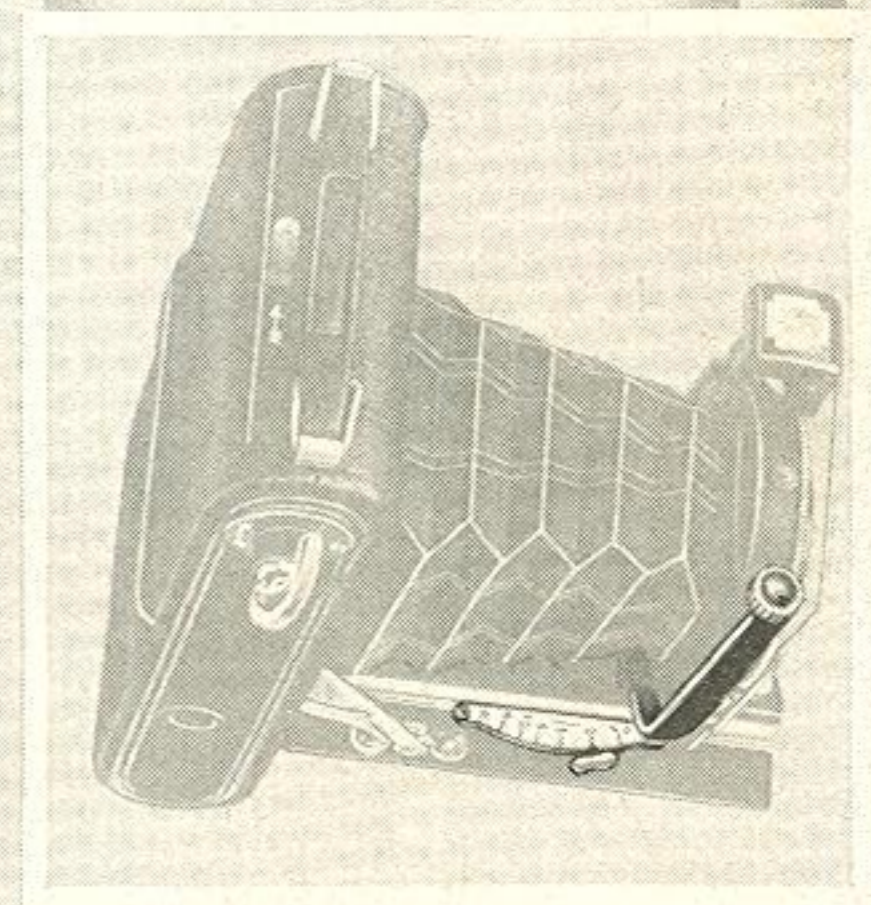
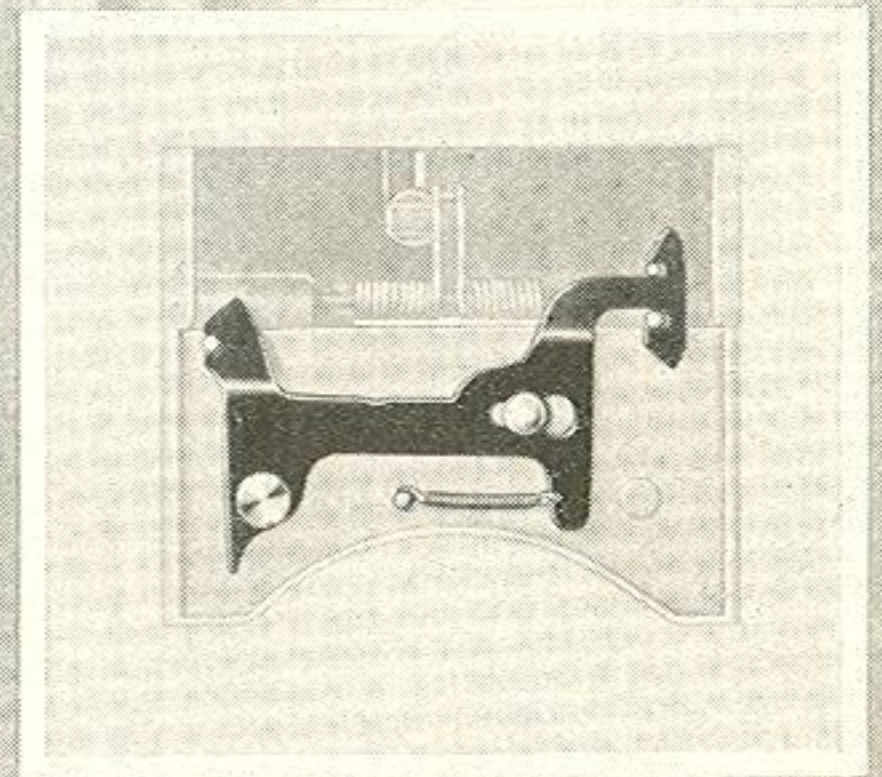
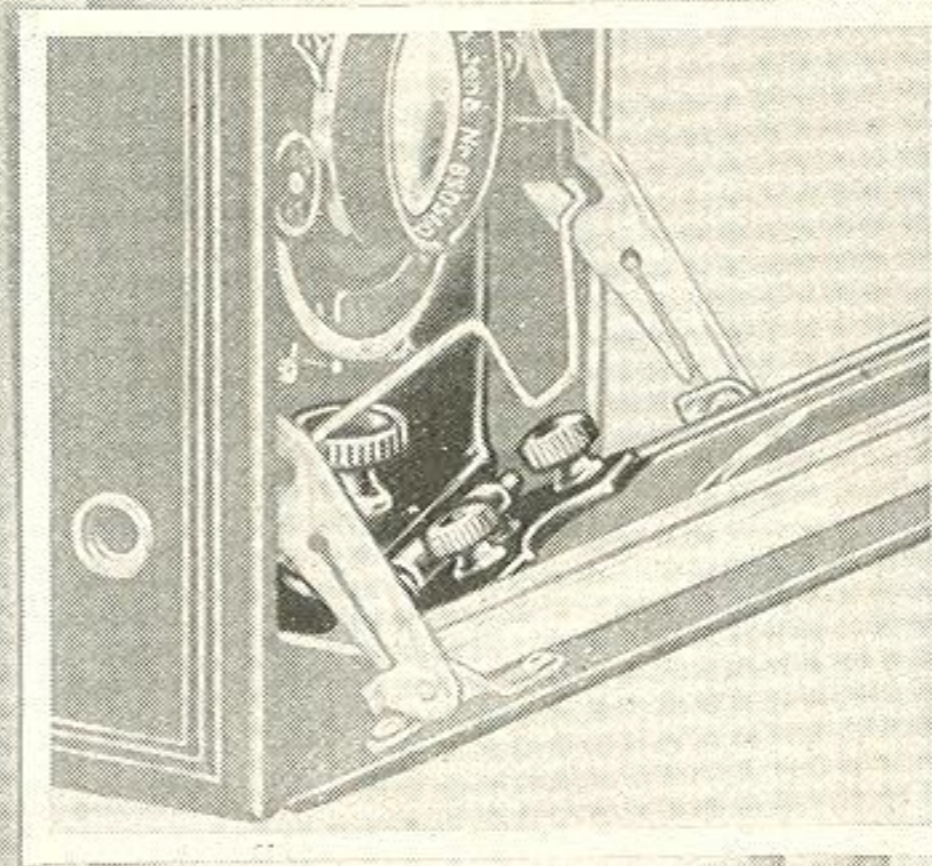
The ingenious hinged connection of the standard with the track of the baseboard was introduced by Zeiss Ikon and has done much to popularize Zeiss Ikon cameras all over the world. It increases the compactness of the camera and facilitates the opening and closing.

Locking device

A locking device, which comes into operation automatically when the camera is extended to the infinity position, holds the camera front securely and eliminates all danger of subsequent displacement. The camera cannot be closed until the locking device is released.

Radial lever

By means of the radial lever accurate focusing is achieved. Before taking a picture, the distance from the camera to the object should be set on the radial lever. The distances on the focusing scale are clearly engraved so as to avoid all errors when setting the camera.



Leiss Ikon Cameras

Bellows clip

When double extension bellows are not extended fully, they are held in place by a bellows clip. This little feature helps to preserve the life of the bellows.

Clamp-on plate holder

The Jewel and the Ideal have this feature which further increases the ease of manipulation of the camera and prevents disturbing the focus registered on the ground glass back.

Ground glass back with hood

All cameras having a ground glass back are also furnished with a hood which is permanently attached and folds compactly over the back of the camera. This obviates the usual focusing cloth.

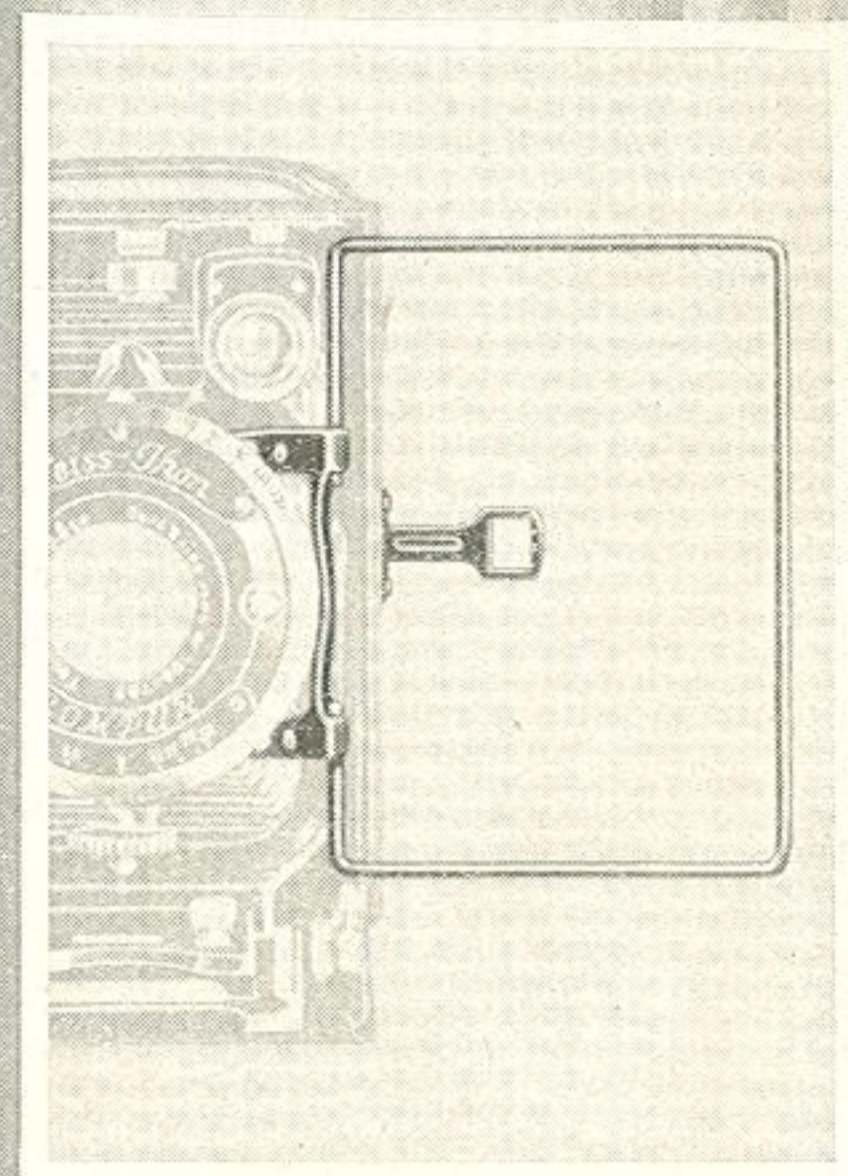
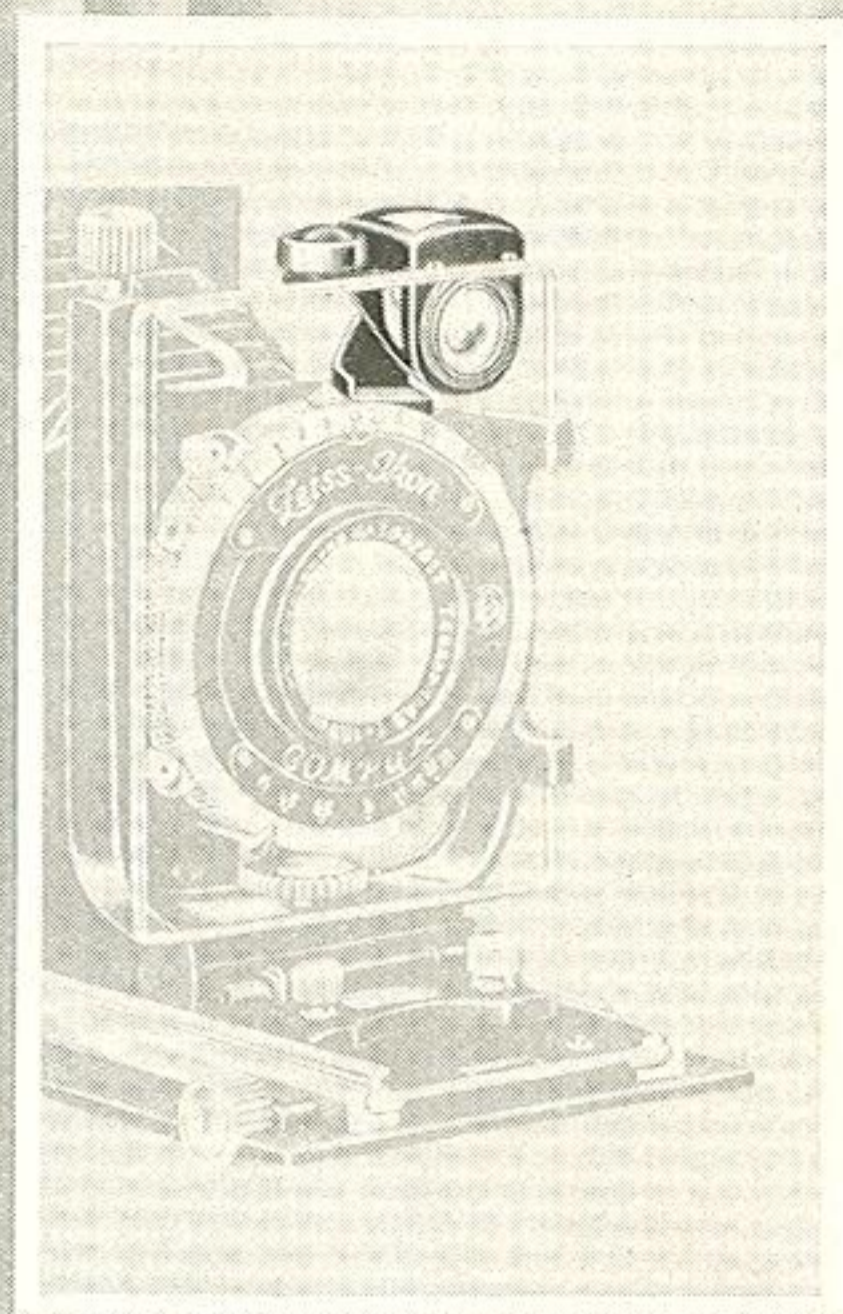
Zeiss Ikon Cameras

Brilliant view finder

An upright image of the object to be taken with the camera is shown in the brilliant view finder. This view finder enables one to make pictures while holding the camera at the waist-line. The finder is of ample size so as to give a good view of the picture.

Ikonometer with peep - sight

Most of the Zeiss Ikon cameras are also equipped with the Ikonometer, a wire view finder with peep-sight which gives the photographer the same possible accuracy he would secure if looking through the ground glass back. The picture will be seen in the Ikonometer in natural size, and you have the assurance that everything you see in the Ikonometer will be in the picture. The Ikonometer also has the advantage that it enables the camera to be held at eye level, and the photographer can thus follow moving objects more rapidly than with the brilliant view finder. This also has the advantage of giving a more natural perspective than with the camera at waist level.



Leiss Ikon Cameras

FOCUS, APERTURE, FOCAL DEPTH, DOUBLE EXTENSION

There is a decided relationship between photography and the human vision. If you will consider this relationship it will make it easier for you to understand the many technical expressions which may at first confuse the beginner and seem to make the choice of a camera a difficult matter.

The camera is nothing more than an artificial eye of glass, metal and leather. Photography and vision are both kindred phenomena. Vision is controlled at will by opening and closing the eyelid. The camera takes a photograph by opening and closing the shutter.

In the human eye, the rays of light first pass through the pupil which contracts or expands automatically, adapting itself to the volume of light. The rays are then directed through the lens forming the image that is projected upon the retina — the human photographic plate.

In the camera, the arrangement is somewhat different. The lens usually consists of several sections between which the shutter (the camera eyelid) and the diaphragm or stop (the camera pupil) are mounted. The image is projected upon a specially prepared film or plate.

In both cases, the image must be developed and rendered visible. In the case of the human eye we become conscious of the image through the brain, which also performs the trick of reversing the image, which according to optical laws is turned upside down by the lens.

In the human body, the retina represents a plate or film that can be used over and over again for new impressions just like a black-board. But the photographic film or plate must be subjected to a chemical treatment and the image fixed once and for all and then copied on special paper.

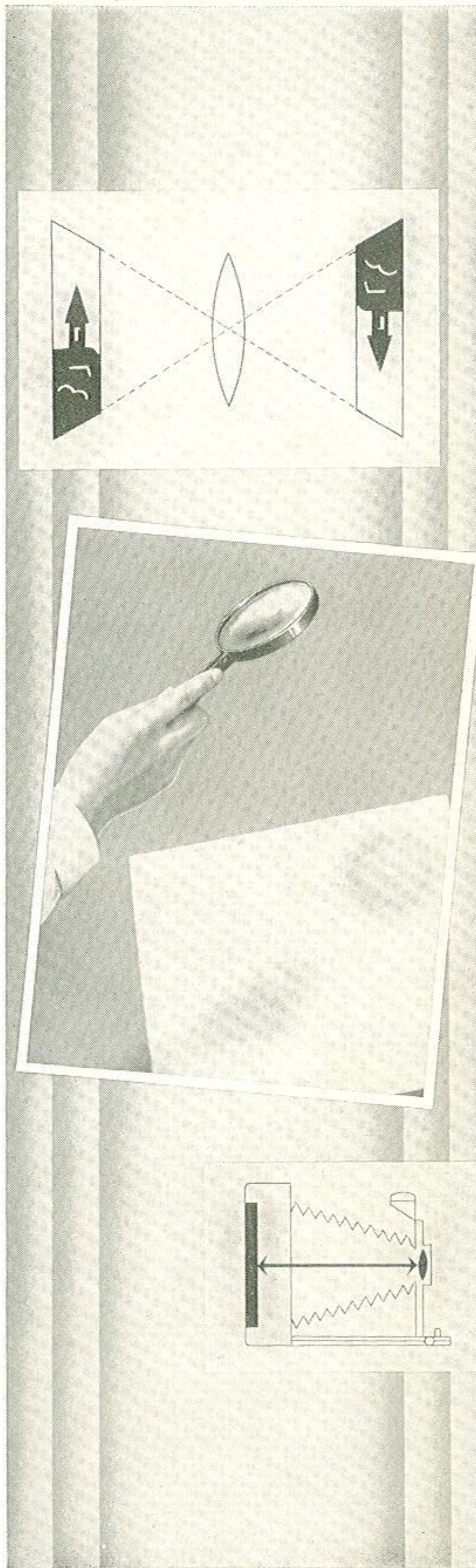
Leiss Ikon Cameras

Focus

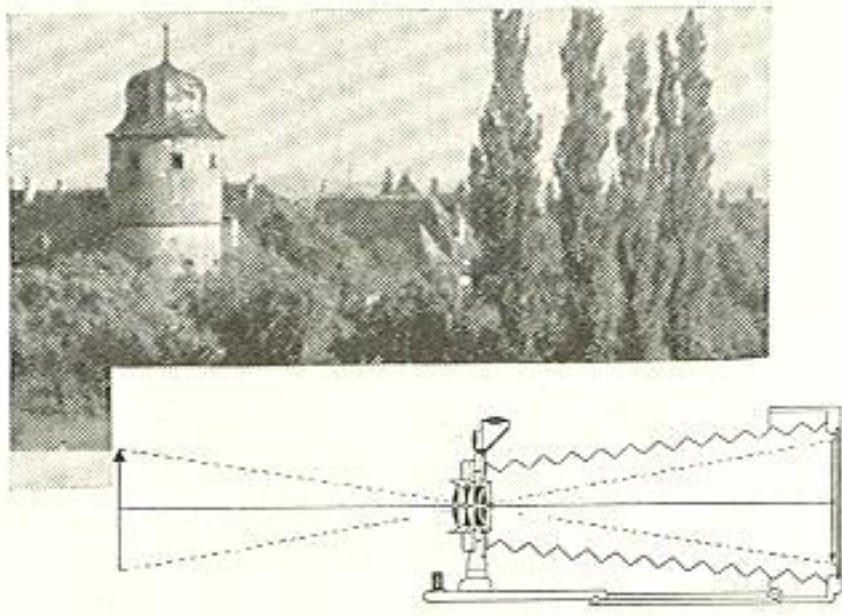
If you take a magnifying glass and hold it so as to concentrate the sun's rays on a piece of paper, you find that there is one position of the glass in which the light spot on the paper is most intense. If you now measure the distance from the magnifying glass to the spot of light (which is in reality an image of the sun) you will have found the focal length of the magnifying glass.

You can now understand what is meant by the focus of a camera lens. If you set the camera so that the lens throws a clear image of a distant object on the focusing screen, the camera will be said to be in focus, and the distance between the center of the lens and the ground glass back is termed "the focal length". Incidentally, the lens will throw an inverted image, as the illustration at the top of this page shows, the rays of light from the extreme ends of the object crossing in the center.

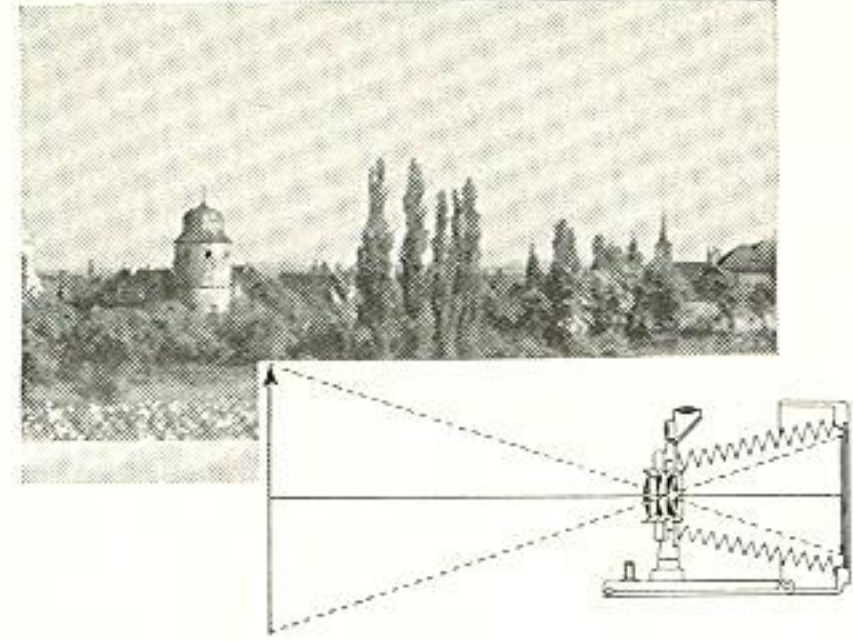
The focus of a camera lens is always engraved on the lens mount. A long focus lens will give a larger image of the object than a short focus lens. This is clearly shown by comparative pictures on pages 10, both taken from the same point, but with a long and short focus lens respectively. The diagrams beneath the pictures also show that a short focus lens has a very much wider angle of vision. The rays of light are like a pair of scissors opened wide. It follows therefore, that the short focus lens, while giving a smaller image of an object, will take in a wider view than the long focus lens.



Zeiss Ikon Cameras



Long focus



Short focus

Effect of long and short focus lenses

This fact is made use of when it is desired to take large photographs of a distant object or to obtain as wide as possible an angle of vision.

For long distance photography, special Telephoto Lenses of exceptional long focal lengths are employed. Naturally their angle of vision will be small. If however, the camera is to cover as wide a stretch of space as possible, as may be required for panorama, interior or architectural photographs, a special so-called wide-angle lens of very short focus must be used. For normal purposes, the focal length of a lens should about correspond with the diagonal of the desired picture size, whereas the focal length of a wide-angle lens should be about equal to the shortest side of the picture.

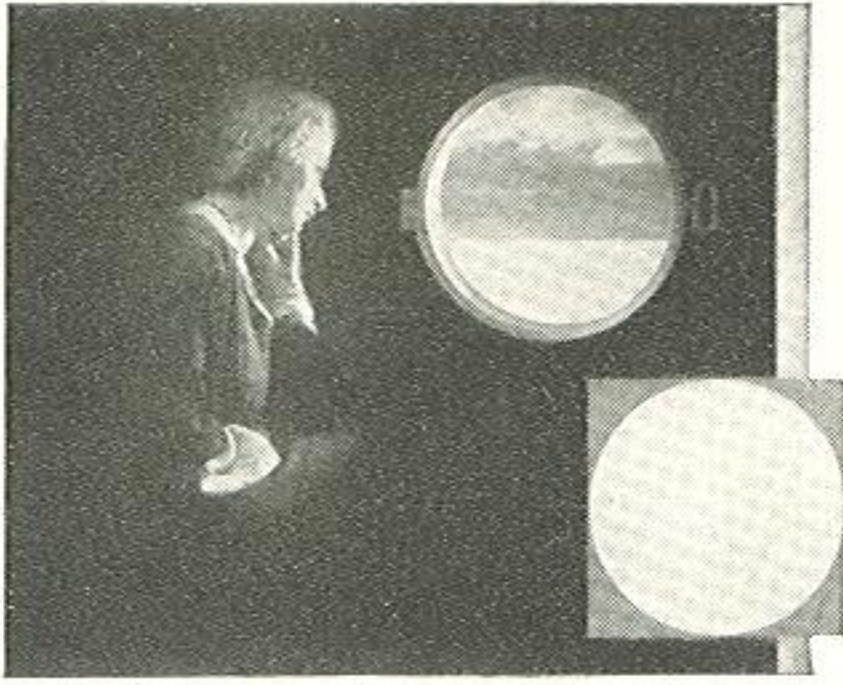
The same effects can be obtained by using the camera lens in combination with Zeiss Distar and Proxar Supplementary Lenses which are moderate in price and within the reach of all.

Lens Aperture

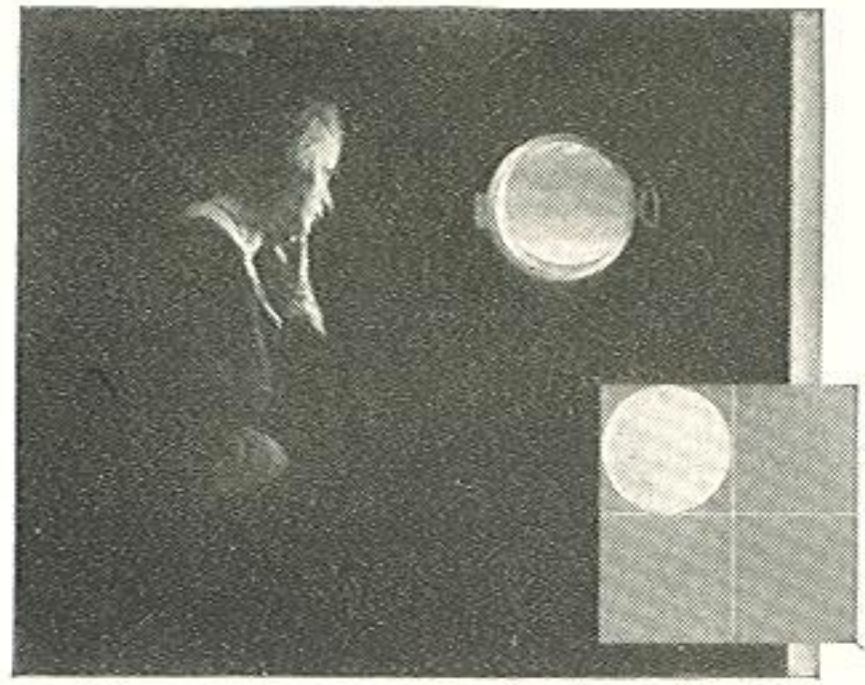
It is obvious that a large window will let more light into a room than a small one and the objects behind the large window will be better illuminated than those behind a small window. Similar conditions rule in the case of lenses. The sensitive surface of the plate or film requires a certain amount of light in order to obtain sufficiently clear definition also in the shadows of the image. A lens with small aperture calls for a larger exposure than a large aperture lens.

The rapidity of a lens is, however, not dependent upon its diameter but upon the ratio of the diameter to the focal length. If, for example, the focal length is 8'' and the diameter $1\frac{3}{4}$ '', the rapidity or effective aperture of the lens will be $1\frac{3}{4}:8 = 1/4.5$ or F/4.5.

Leiss Ikon Cameras



Large aperture lens (rapid)



Small aperture lens (slow)

Effect of large and small aperture lenses

The Diaphragm

The diaphragm consists of a series of thin sections so arranged as to form a circular opening in their center, the diameter of which can be varied within certain limits. The effective aperture can be varied with a corresponding variation of the time of exposure. The diaphragm not only serves to regulate the amount of light, but also to widen or narrow the rays of light, thus affecting the depth of focus (see next page on focal depth). Diaphragm apertures are designated in exactly the same manner as the effective aperture of the lens, that is, by the relationship of their diameters to the focal length of the lens. The scale according to which the diaphragm (stop) is set, is usually engraved so that each progressive change of aperture calls for double or half the exposure. For instance, the diaphragm aperture 4.5 is followed by 6.3. If the aperture is reduced from 4.5 to 6.3, double the exposure necessary for the first noted stop will be required. The top left hand picture on this page shows the ratio between the lens aperture and the light volume in the case of a lens of 13.5 cm focal length and an effective aperture of 3 cm., giving a rapidity of $3:13.5 = F/4.5$. The right hand picture shows the same lens with diaphragm set so as to reduce the effective aperture diameter to 1.5 cm giving a rapidity of $1.5:13.5 = F/9$. If the time of exposure necessary in the first case was 2 seconds, for the second case a four-fold exposure will be necessary, $4 \times 2 = 8$ seconds. This is due to the fact that the halving of the diameter of the effective lens aperture reduces the area through which the light passes to $\frac{1}{4}$ of the original area (see above illustrations).

Long exposures are naturally only used for still pictures. Moving objects necessitate short exposures which will generally only be possible with the full aperture of the lens. The more rapid the motion of the object to be photographed, the shorter the exposure necessary for obtaining non-distorted pictures. The large aperture also gives a very plastic relief.

Leiss Ikon Cameras

Something about focal depth

If you look at a distant object you will notice that, while you can see near-by objects, clearly defined vision is only obtained at a certain distance. And when looking at close objects you will also notice that only the object upon which our eyes are focused are seen clearly, whereas objects in front or behind the point of focus will not be sharp. The conclusion to be drawn from this is that the focus has a certain depth, in front of or behind which images are not clear.

If you extend your camera bellows until you hear the snap of the infinity catch, the camera lens will be focused at infinity, which in the case of a 9×12 cm. camera means that all objects beyond 60 feet will be clearly defined. As the distance from object to camera decreases, so the depth of clear definition is also decreased. If two lenses of equal rapidity and focal length are focused on points at different distances, the greatest area of clear definition or focal depth will be obtained in the case of the lens focused on the most distant point.

It is usually advisable to focus on the center of the subject. To obtain a clearly defined fore-and background, the diaphragm of the lens should be stopped down until all objects appear sufficiently clear and sharply defined.

Reducing the aperture increases the focal depth and increasing the aperture will reduce it. Of two lenses of equal focal lengths, but of different aperture, the less rapid lens will have the greater depth of focus. Of two lenses of equal aperture, but different focal length, the depth of focus will be greatest with a lens of short focal length.



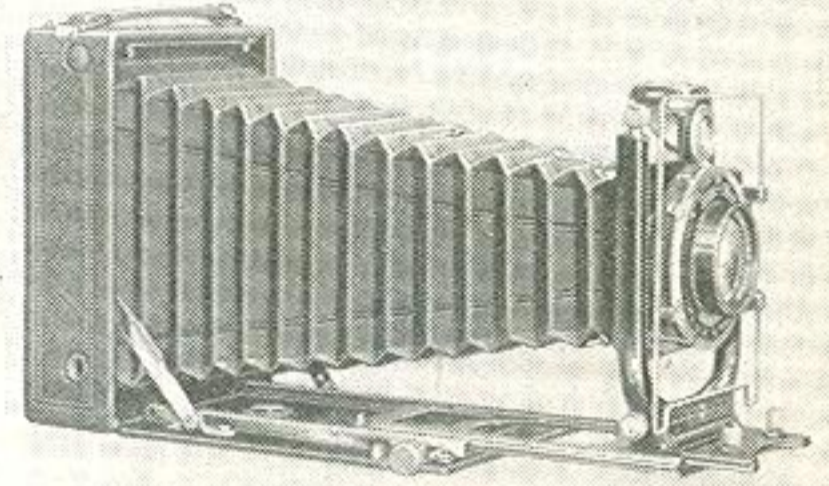
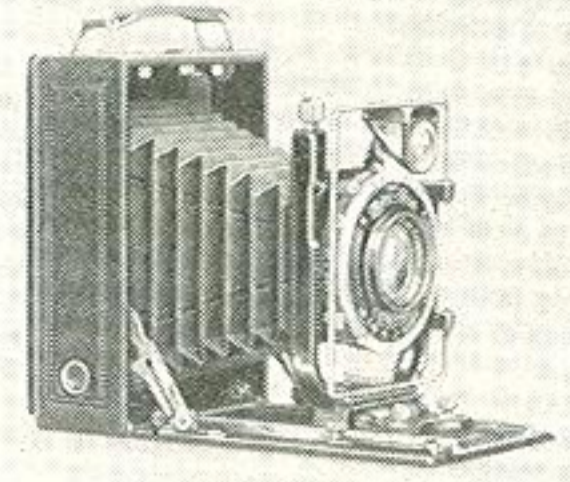
Zeiss Ikon Cameras

Single or double extension bellows?

Double extension bellows, enabling close-ups to be taken, are valuable features in some models of Zeiss Ikon Cameras.

For the purposes of the average amateur, a single extension camera permitting close-ups at about 6 feet distance will be satisfactory, especially since supplementary portrait lenses can often be employed which allow close-ups of 3 feet. The double extension bellows are really only indispensable for plate cameras, where it is intended to use varying focal lengths with the assistance of supplementary lenses. The advanced amateur will be primarily interested in having a camera with double extension bellows which are necessary in taking long distance or wide angle photographs or else for taking natural size pictures of very small objects.

The double extension bellows are of sufficient length to enable three to five different focallengths to be obtained when using Distar or Proxar supplementary lenses (see page 27).



Zeiss Ikon Cameras

Size of picture and type of camera

The choice of the size of the picture is dependent, to a large extent, upon the uses to which a photographer will put his camera.

Miniature cameras such as the Baby Ikomat, and the Kolibri, both making pictures $1\frac{1}{4} \times 1\frac{5}{8}$ " are ideal companions for the traveler and tourist who wants to reduce the bulk of his photographic equipment to a minimum. And when you do your own enlarging with a Zeiss Ikon enlarger, the joys of miniature photography are still further enhanced.

Rollfilm cameras such as the Ikomats, Icarettes, and Nixe, which take the popular rollfilm picture sizes are preferred by many amateurs because of their convenience and ease of manipulation. And there are also models (Icurette L and Nixe) which can be used for rollfilms, plates and film packs.

Plate and film pack cameras such as the Maximar, Trona and Ideal, are the choice of amateurs who take a more serious view of their hobby, for these cameras are constructed to meet the requirements in almost every field of photography. For the advanced amateur who is interested in sports and press photography, the Orix and Miroflex are recommended. For interior and architectural photography the Ideal and Juwel models are unsurpassed.

On the pages 16 and 17 are shown the various picture sizes of Zeiss Ikon cameras.



Zeiss Ikon Cameras

LENS EQUIPMENT

The beginner in photography usually prefers to start with a less expensive camera. It is this reason which prompts us to offer our Junior Cameras with Novar Anastigmat F/4.5 or F/6.3 lenses. These lenses are excellent anastigmats and are appreciated for the good quality of their all-round work.

However, for the amateur who appreciates superior quality, greatest versatility and inherent value as well as the amateur who takes a more serious view of his hobby, there are Zeiss Ikon Cameras fitted with the internationally famous Carl Zeiss Tessar lens. It has been truly said that no camera can be better than its lens and the excellent definition and brilliance of the Zeiss Tessar certainly proves the soundness of this statement. For consistently high quality and uniform performance and reliability the Zeiss Tessar is unsurpassed.

Here are a few of the Zeiss Tessars used on the most popular Zeiss Ikon Cameras:

Tessar F/4.5 makes exquisitely sharp and brilliant pictures over a wide angle and the resulting negatives can be enlarged considerably.

Tessar F/3.5 is a truly universal and very rapid lens with sharp definition over the whole plate.

Bio-Tessar F/2.8 and Tessar F/2.7 are still more rapid. Their extremely large aperture will permit exposures even under very unfavorable light conditions.

Tele-Tessar F/6.3 can be used in an equivalent focal length considerably larger than the camera extension required. Thus it is possible to use a Tele-Tessar of an equivalent focal length of 10" on a camera the extension of which does not exceed 6".

All Zeiss Ikon cameras with double extension bellows and equipped with Zeiss Tessar lenses may be used with Zeiss supplementary "Distar" or "Proxar" lenses. They greatly increase the usefulness of the camera. See pages 25 to 27.

Rollfilm Sizes

3¼ × 5½"

8 × 14 cm

3¼ × 4¼"

8 × 10,5 cm

1⅝ × 2½"

4 × 6,5 cm



2½ × 4¼"

6,5 × 11 cm



2¼ × 3¼"

6 × 9 cm



2 × 3"

5 × 7,5 cm



1½ × 1⅝"

3 × 4 cm



Plate Sizes

4 × 6 "

10 × 15 cm



3 1/2 × 4 3/4 "

9 × 12 cm



2 1/2 × 3 1/2 "

6,5 × 9 cm

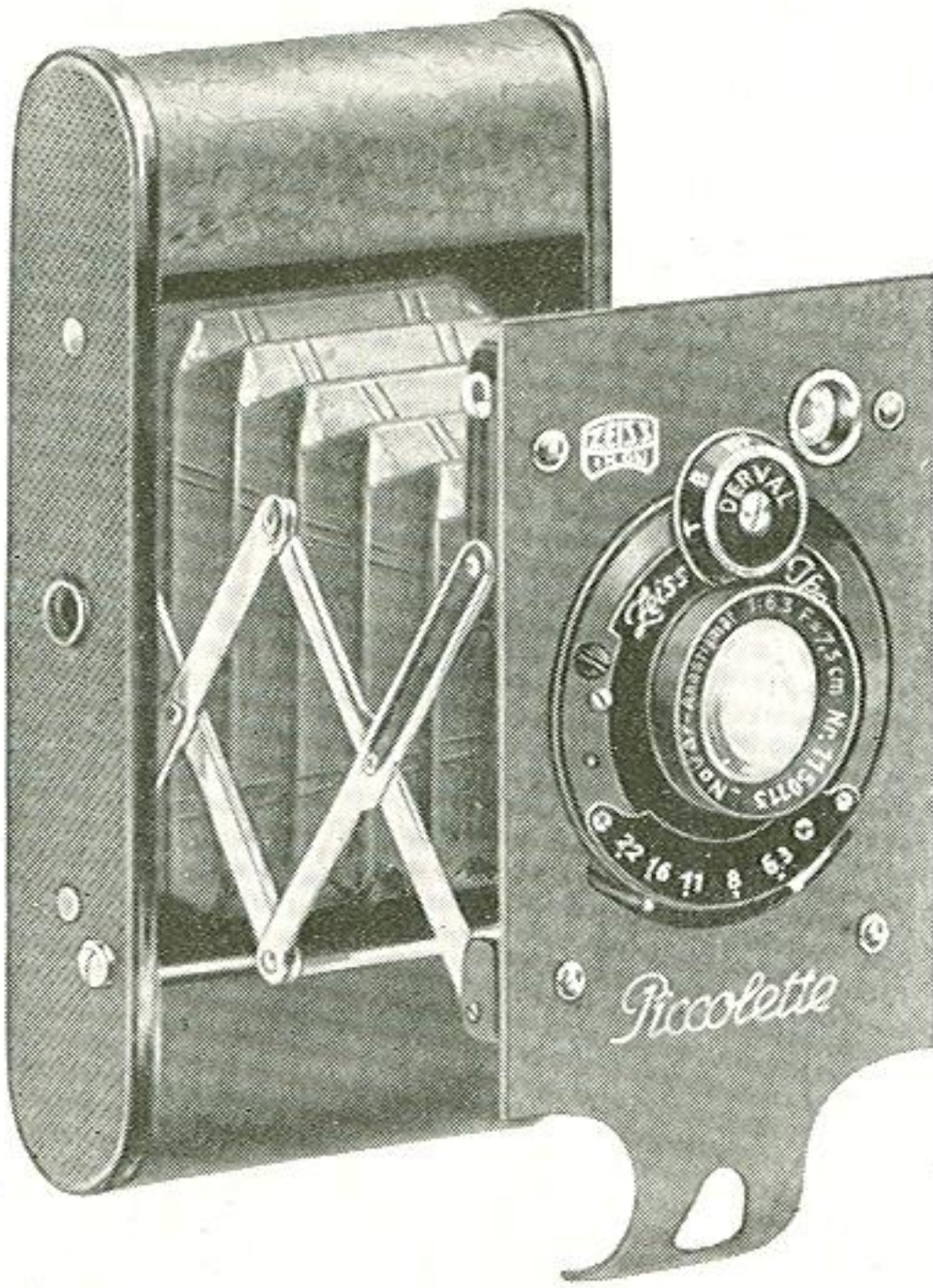


1 3/4 × 2 5/8 "

4,5 × 6 cm



Leiss Ikon Cameras



V. P. PICCOLETTE

For Rollfilms $1\frac{5}{8} \times 2\frac{1}{2}$ "

The Vest Pocket Piccolette is a small, compact camera which can be carried conveniently in your pocket. For the beginner in photography, this camera is ideal.

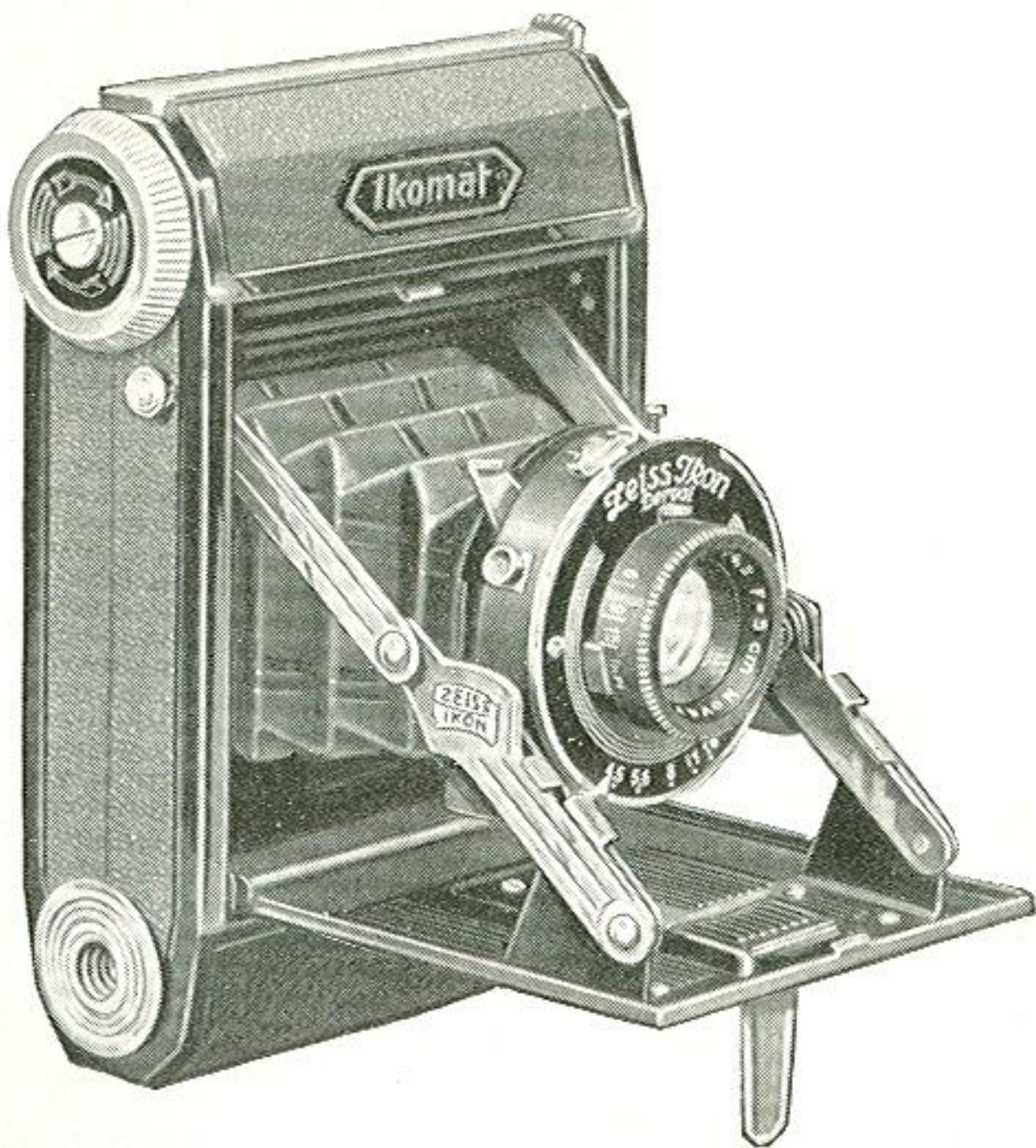
The Vest Pocket Piccolette is a fixed focus camera which means that when you open it, it is immediately ready to make pictures. The Ikonometer, a wire finder, showing you the actual composition of the picture you are making, is standard equipment. A brilliant view finder is also included.

The trellis supports insure rigidity and therefore parallelism of the lens with the film. A special feature of the Vest Pocket Piccolette is the convenient method of loading the film. The film race positively guides the film and prevents buckling.

This camera is constructed of light metal, finished in black enamel and its bellows are of genuine leather.

Picture Size $1\frac{5}{8} \times 2\frac{1}{2}$ inches
Lens Novar Anastigmat F/6.3 of 3 inch focal length
Shutter Derval with cable and finger release
Speeds $\frac{1}{25}$; $\frac{1}{50}$; $\frac{1}{100}$ sec. Time and Bulb
Camera Size $1 \times 2\frac{1}{2} \times 4\frac{3}{4}$ inches. Weight: 10 ozs.

Zeiss Ikon Cameras



BABY IKOMAT

Miniature Rollfilm Camera

makes

16 exposures $1\frac{1}{4} \times 1\frac{5}{8}$ " on
any standard Vest Pocket
Rollfilm

The Baby Ikomat is just about an inch higher than a package of cigarettes and it is of such a convenient size that it fits easily into a man's pocket or a lady's purse.

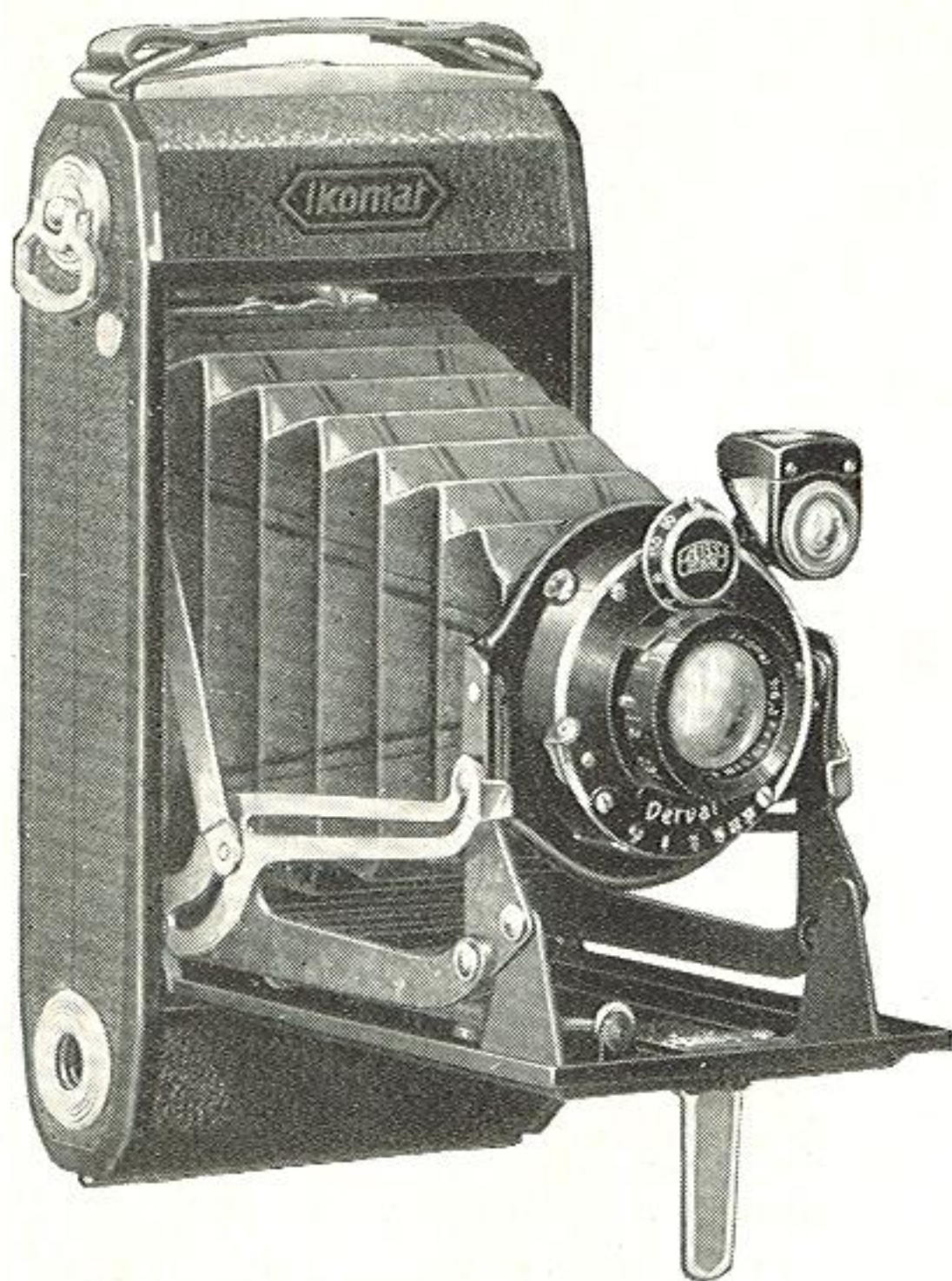
It is extremely simple to make pictures with the Baby Ikomat, for by pressing a button, the camera springs open automatically ready for immediate action. By means of a quick adjustment, this camera becomes a fixed focus camera which means that it is set to make pictures at a distance from 8 feet or over.

Miniature cameras such as the Baby Ikomat possess the additional fascination which photographers are afforded in making enlargements. The 16 pictures on one roll of film is a decided economy which has made this camera a dependable supplementary outfit for the advanced amateur as well as a valuable aid for the beginner in further developing his photographic talents.

In design and finish, the Baby Ikomat is an excellent example of the usual high standard of Zeiss Ikon craftsmanship.

Picture Size $1\frac{1}{4} \times 1\frac{5}{8}$ inches
Lens Novar Anastigmat F/4.5, 2 inch focal length
Shutter Derval with cable and finger release
Speeds $\frac{1}{25}$, $\frac{1}{50}$, $\frac{1}{75}$ sec. Time and Bulb
Camera Size $1 \times 2\frac{1}{2} \times 4$ inches. Weight: 10 ozs.

Leiss Ikon Cameras



I K O M A T C and D

For Rollfilms

Model C : $2\frac{1}{4} \times 3\frac{1}{4}$ "

Model D : $2\frac{1}{2} \times 4\frac{1}{4}$ "

These cameras are designed for the large number of camera amateurs who want a camera which is ready for action immediately and is simple to operate. By pressing a button the baseboard is released and the camera is ready to make pictures immediately.

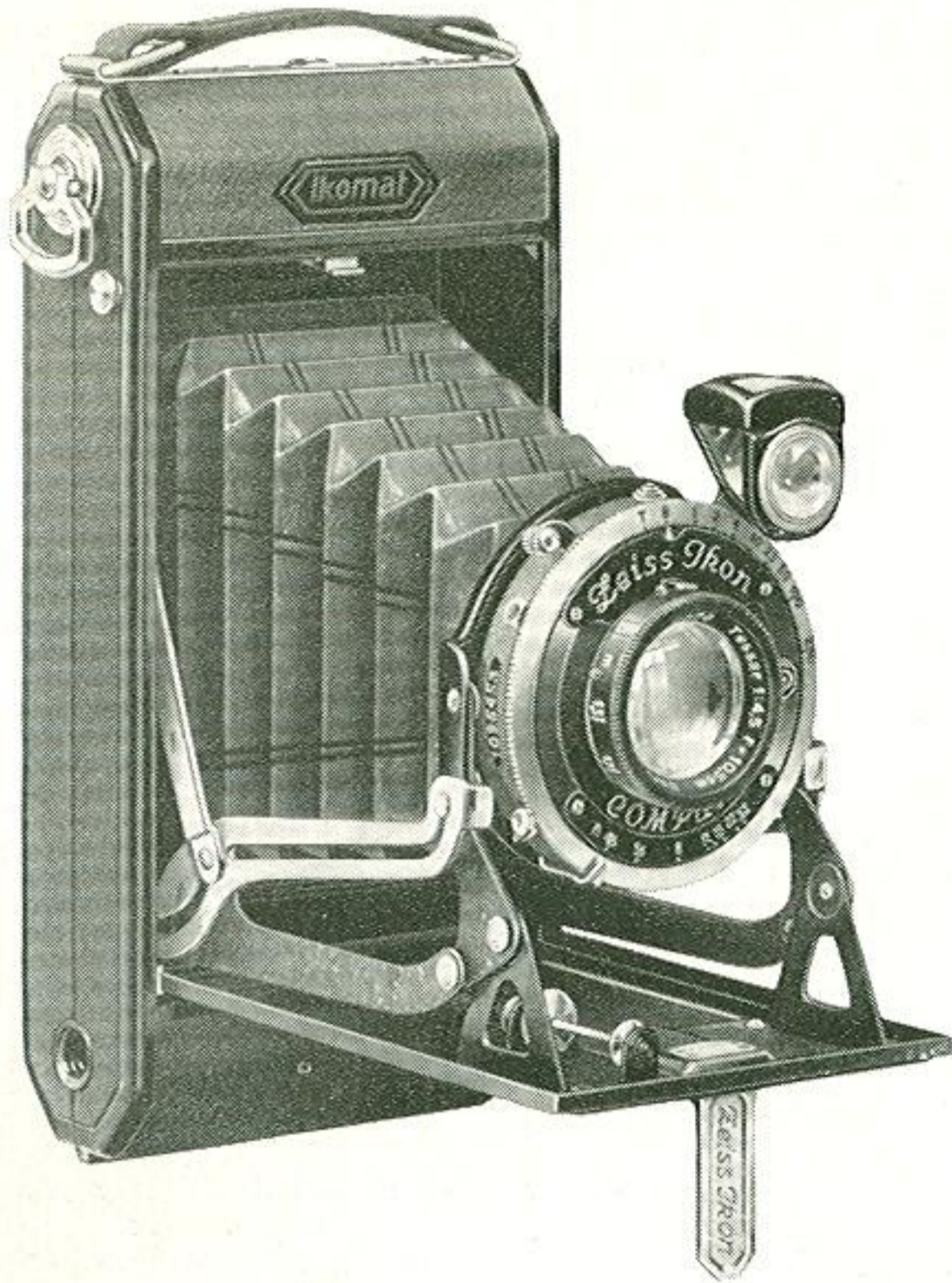
For close-ups, rapid focusing is effected by setting the front lens cell according to the marking of the distance scale engraved on the lens mount. An additional feature is a simple adjustment which makes the Ikomats fixed focus cameras, set to make pictures with clear definition of all objects from 12 feet to infinity, under normal light conditions. When used as fixed focus cameras, further adjustment of distance or diaphragm scale or shutter is unnecessary.

The attractive size of pictures which the Ikomats give and their all-round versatility make these cameras appeal to a wide group of amateurs.

Ikomats C and D are constructed of an all metal body of modern design and well-finished in black lacquer with highly nickeled metal parts.

Picture Size Model C, $2\frac{1}{4} \times 3\frac{1}{4}$ inches. Model D, $2\frac{1}{2} \times 4\frac{1}{4}$ inches
Lens Novar F/6.3. Model C, $4\frac{1}{8}$ inch; Model D, 5 inch focal length
Shutter Derval with cable and finger release
Speeds $\frac{1}{25}$ to $\frac{1}{100}$ sec. Time and Bulb
Camera Size Model C, $1\frac{1}{2} \times 3\frac{5}{16} \times 7$ inch. Model D, $1\frac{5}{8} \times 3\frac{1}{2} \times 7\frac{3}{4}$ inch.
Weight: Model C, 22 ozs. Model D, 28 ozs.

Zeiss Ikon Cameras



I K O M A T C and D S P E C I A L

For Rollfilms

Model C : $2\frac{1}{4} \times 3\frac{1}{4}$ "

Model D : $2\frac{1}{2} \times 4\frac{1}{4}$ "

Here are the new additions to the Ikomat series of Zeiss Ikon cameras. And they are called "Special" because they are the only Ikomats fitted with the well-known Carl Zeiss Tessar F/4.5 lens.

This lens is mounted in the new Compur shutter with self-timing device which allows you approximately 12 seconds to get into your own pictures, before the exposure. Due to its hinged back, these cameras are one complete unit which simplifies loading of the film. The back has a pressure plate holding the film accurately in focal plane.

The accurate direct vision finder shows you the exact composition of your pictures whether they are made in a horizontal or vertical position. In addition, a brilliant view finder is also attached.

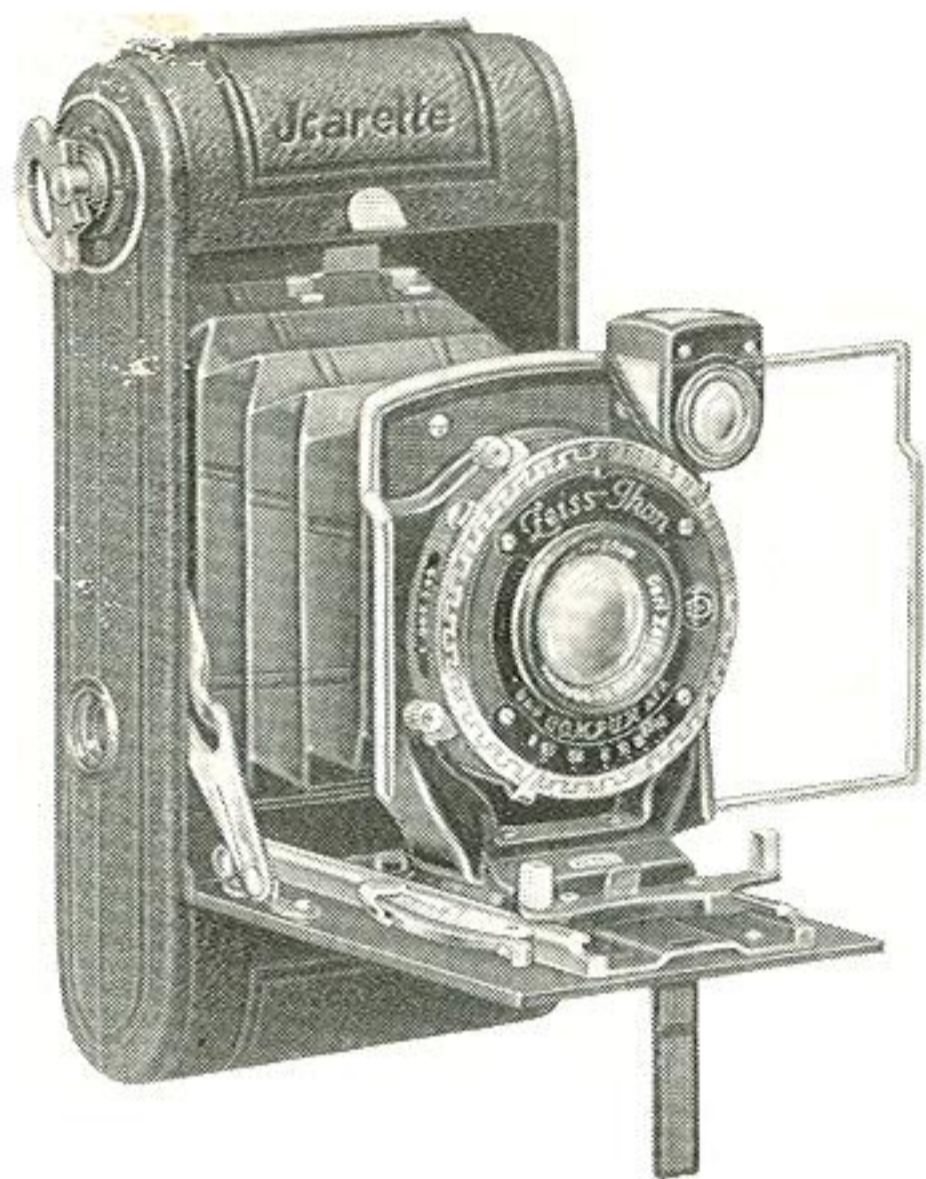
Focusing can be effected extremely rapidly by simply turning the front lens and setting to distance scale engraved on the lens mount. The scale is visible from above and enables a last minute check to be made.

The Ikomat C and D Special cameras can be used for a wide range of purposes, for interior or for outdoor shots.

These cameras are constructed of an all metal body covered with genuine leather and finished in black enamel with nickel.

Picture Size	.....	Model C, $2\frac{1}{4} \times 3\frac{1}{4}$ inches. Model D, $2\frac{1}{2} \times 4\frac{1}{4}$ inches
Lens	.....	Zeiss Tessar F/4.5, $4\frac{1}{8}$ inch focal length. Model D, 5 inch focal length
Shutter	.....	New Compur with self-timing device
Speeds	.....	1 to $\frac{1}{250}$ sec. Time and Bulb
Camera Size	.....	Model C, $1\frac{3}{8} \times 3\frac{1}{4} \times 6\frac{1}{2}$ inch. Model D, $1\frac{5}{8} \times 3\frac{1}{2} \times 7\frac{3}{4}$ inch.
Weight	.....	Model C, 25 ozs. Model D, 31 ozs.

Zeiss Ikon Cameras



V. P. ICARETTE

For Rollfilms $1\frac{5}{8} \times 2\frac{1}{2}$ "

Here is another one of our compact models which also includes many of the features which have made Zeiss Ikon cameras famous.

The Carl Zeiss Tessar F/4.5 lens, fitted to this camera, is internationally known for its perfect definition and brilliancy. It is for this reason that the small size of the V. P. Icarette's pictures can be enlarged easily to 8×10 ". This lens is fitted in the new Compur Shutter which has 8 speeds ranging from 1 to $\frac{1}{300}$ of a second. This speed arrests motion in photographing rapidly moving objects such as athletes in action, races, etc.

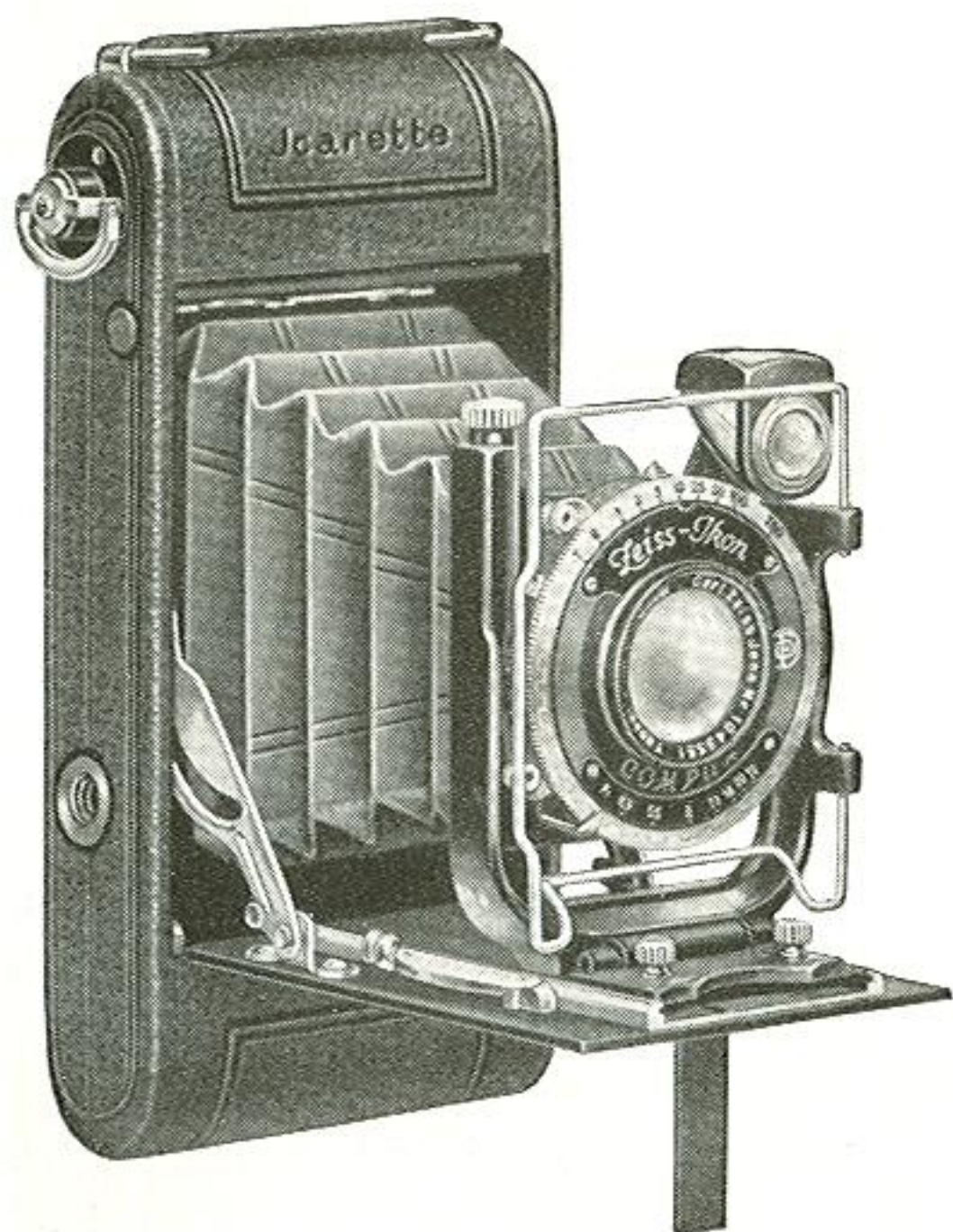
The Vest Pocket Icarette can be used in either horizontal or vertical positions. Its Ikonometer finder enables you to observe the picture in full size from eye level position. In addition, it is also equipped with a brilliant view finder.

Due to the small size of the pictures, this camera is very economical to operate. In fact, it costs no more to use a Vest Pocket Icarette and have post-card size enlargements made, than to use a post-card size camera. The results are as good, if not better, and the camera is easier to operate and more convenient to carry.

This camera is built of metal throughout, finished in polished black enamel with nickel trimmings, and covered with fine grain leather. A leather carrying case is furnished with each camera.

Picture Size ... $1\frac{5}{8} \times 2\frac{1}{2}$ inches
Lens Zeiss Tessar F/4.5 of 3 inch focal length
Shutter New Compur with cable and finger release
Speeds 1 to $\frac{1}{300}$ sec. Time and Bulb
Camera Size ... $1\frac{1}{4} \times 2\frac{3}{4} \times 5\frac{3}{8}$ inches. Weight: 14 ozs.

Zeiss Ikon Cameras



ICARETTE C and D

For Rollfilms

Model C : $2\frac{1}{4} \times 3\frac{1}{4}$ "

Model D : $2\frac{1}{2} \times 4\frac{1}{4}$ "

The Icarette C and D models are favorites of amateurs the world over. They make popular size pictures and have all of the features which are always associated with Zeiss Ikon cameras.

Fitted to these cameras is the well-known Carl Zeiss Tessar F/4.5 lens which assures you of sharp, clear negatives. These models also have the new Compur shutter with self-timing device which allows the photographer approximately 12 seconds to get into his own pictures, before the exposure.

The Icarette cameras have hinged backs and swivel film spool holders which insure rapid and easy loading of films as they can be raised from the camera body. This improved film holder guarantees even, free winding of the film.

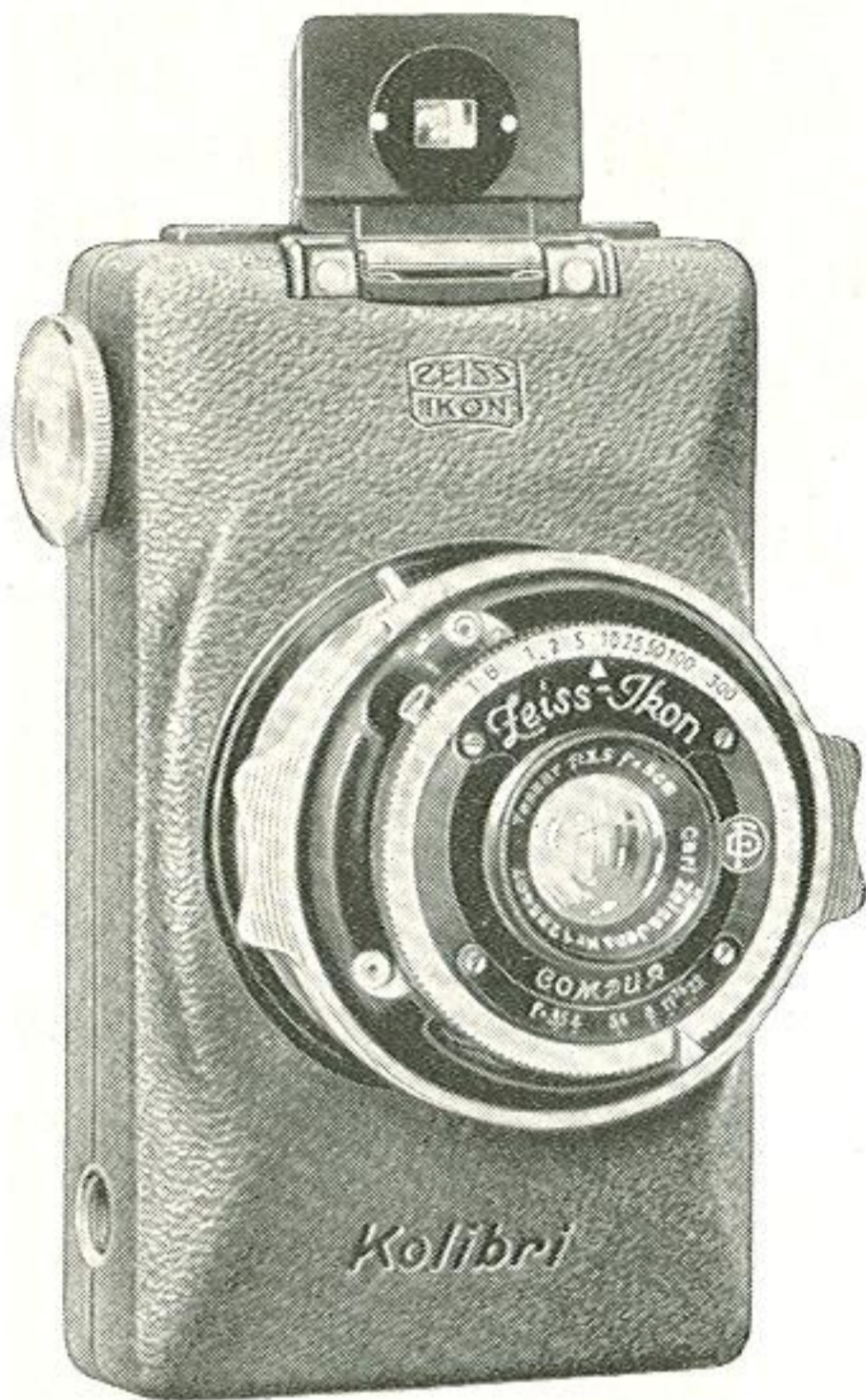
The front of these models have a screw-operated vertical movement. The Ikonometer wire finder always indicates the correct composition of the picture, even when the front is elevated. There is also a brilliant view finder.

The Icarette C and D are identical except for size of the picture and weight. Both models are built of durable, light metal, attractively furnished in black enamel and nickel. They are covered with fine grain pin seal leather.

A leather case is furnished with each camera.

Picture Size .. Model C, $2\frac{1}{4} \times 3\frac{1}{4}$ inches. Model D, $2\frac{1}{2} \times 4\frac{1}{4}$ inches
Lens Zeiss Tessar F/4.5 Model C, $4\frac{1}{8}$ inch; Model D, $4\frac{3}{4}$ inch focal length
Shutter New Compur with cable and finger release and self-timing device
Speeds 1 to $\frac{1}{250}$ sec. Time and Bulb
Camera Size .. Model C, $1\frac{7}{16} \times 3\frac{1}{4} \times 7$ inches. Model D, $1\frac{9}{16} \times 3\frac{3}{8} \times 8\frac{1}{4}$ inch.
Weight Model C, 26 ozs. Model D, 31 ozs.

Zeiss Ikon Cameras



K O L I B R I

Miniature Camera

making 16 pictures $1\frac{1}{4} \times 1\frac{5}{8}$ "

on standard Vest Pocket Rollfilm

The Kolibri is one of the new additions to Zeiss Ikon cameras and has been received most enthusiastically by amateur photographers due to the excellent advantages it offers in a camera constructed so compactly and of modern design.

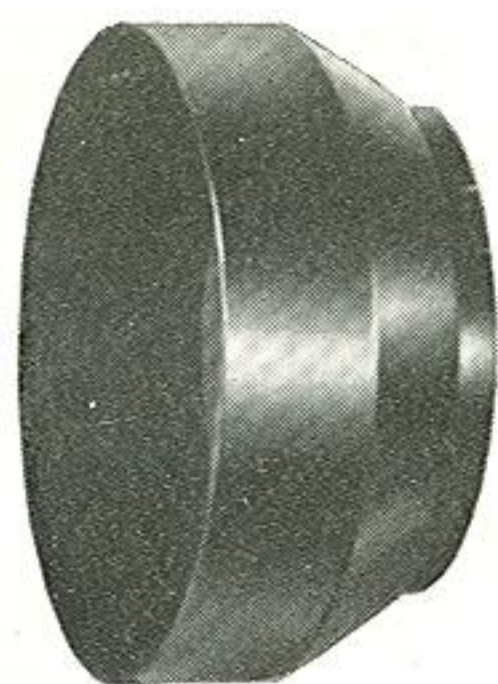
This miniature camera is fitted with the well-known Carl Zeiss Tessar F/3.5 of 2" focal length, a very rapid lens which gives such perfect definition that good-sized enlargements can be made easily. By the addition of a Zeiss Proxar Supplementary Lens (described on page 25) it is possible to focus as close as 20 inches. Formerly miniature cameras had the disadvantage of requiring special rollfilm which is not available everywhere. The Kolibri uses any standard vest pocket size rollfilm obtainable wherever films are sold and makes 16 pictures on a single roll of film. It is this feature which makes the operating cost of the Kolibri most economical.

The Kolibri weighs only 18 ounces and is covered with black grain leather with some fittings of black enamel and others of nickel plate.

An attractive black leather case and wire release are supplied as part of the equipment of the Kolibri.

Picture Size	.....	$1\frac{1}{4} \times 1\frac{5}{8}$ inches
Lens	.....	Zeiss Tessar F/3.5 of 2 inch focal length
Shutter	.....	New Compur with cable and finger release
Speeds	.....	1 to $\frac{1}{300}$ sec. Time and Bulb
Camera Size	.....	$4\frac{3}{4} \times 3 \times 2$ inches
Weight	.....	18 ozs.

Zeiss Ikon Cameras



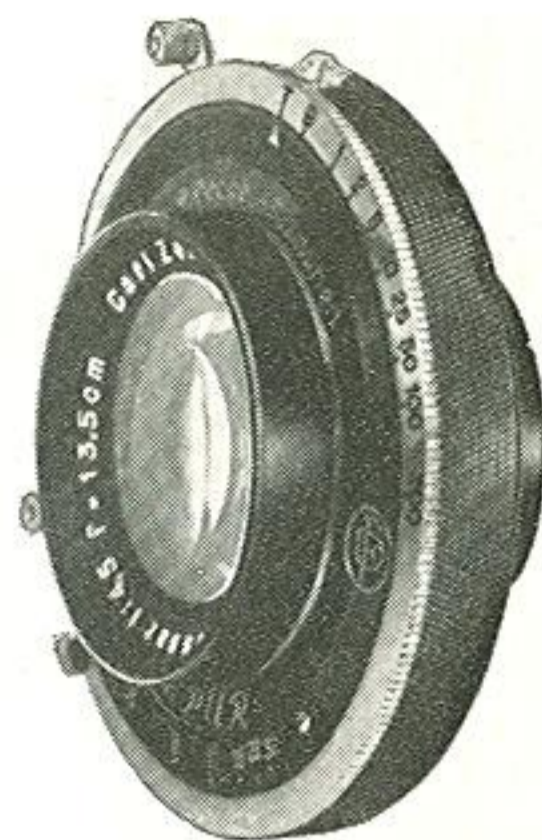
Sun Shade



Filter



Distar or Proxar



Zeiss Tessar
in Compur Shutter

All cameras with double extension bellows and equipped with Carl Zeiss Tessar lenses, listed on the following pages can be used with

Zeiss Supplementary Lenses

“DISTAR” and “PROXAR”

Distars increase—Proxars shorten the focal length of the lens. On the next page are shown reproductions of photographs made with the Carl Zeiss Tessar F/4.5 of $5\frac{1}{4}$ " focal length fitted to an Ideal B camera. The results show what Distar and Proxar lenses are capable of, when combined with the Zeiss Tessar.

By the simple and inexpensive method of adding a Zeiss Distar or Proxar Supplementary Lens, you are able to change the focal length of your camera lens and to obtain a tele-photo combination with the Distar or a wide angle combination with the Proxar.

A list of Zeiss Ikon cameras having double extension bellows, and showing the respective Distar and Proxar Lenses which can be used with them follows on page 27. This list also indicates the change in focal length which can be obtained.

Zeiss Ikon Cameras



The photos illustrate the results obtained with a Carl Zeiss "Tessar" F/4.5 of $5\frac{1}{4}$ inch focal length in combination with "Distar" and "Proxar" Supplementary Lenses on an Ideal B Camera. The top left-hand picture was taken with a "Distar", and the right-hand one with a "Proxar". The bottom picture, from exactly the same point of view, with the "Tessar".

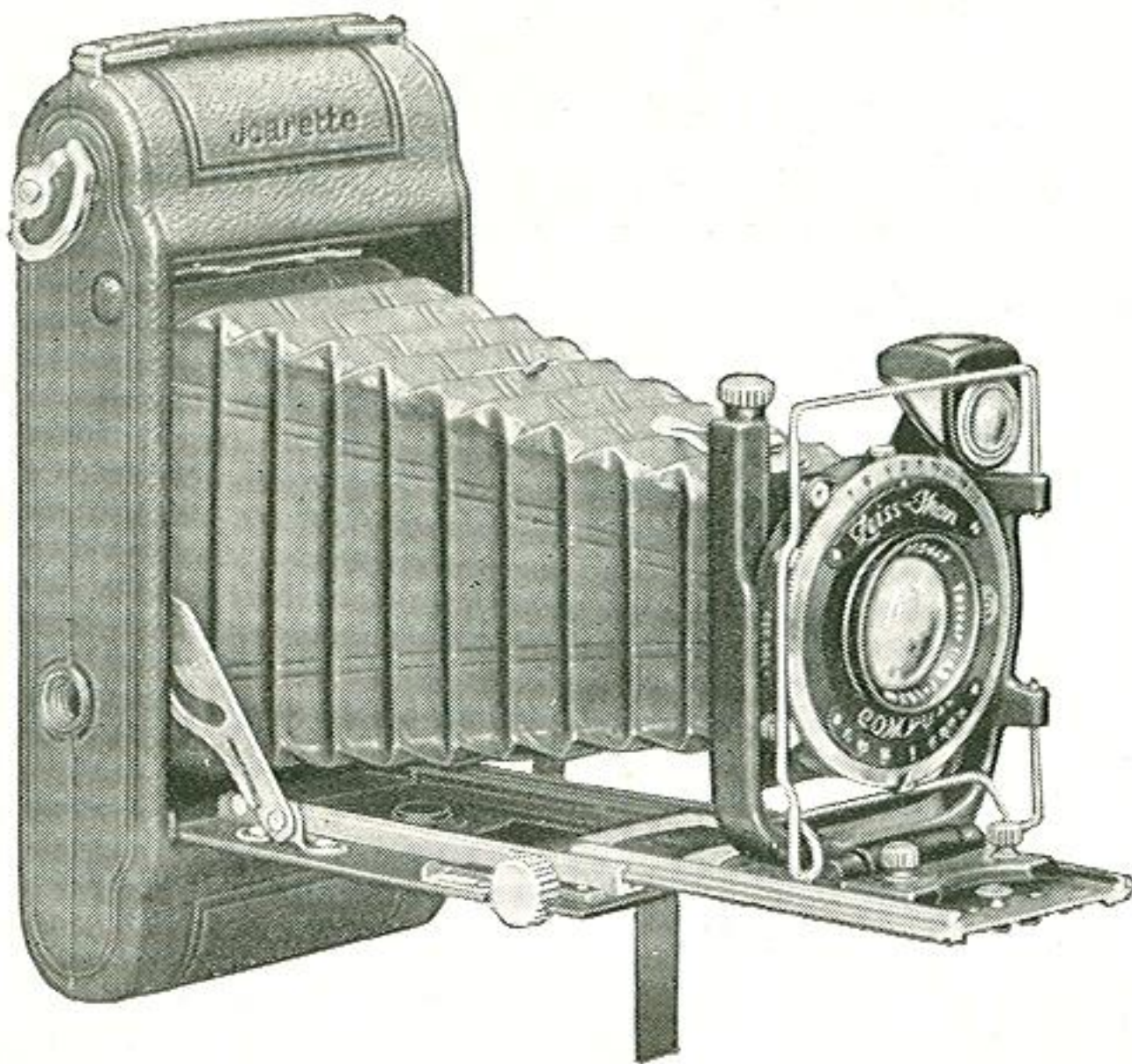
Zeiss Ikon Cameras

The following list of double extension* Zeiss Ikon Cameras, fitted with Carl Zeiss Tessar Lenses shows which Zeiss Distar or Proxar Lenses may be used. To order Distar or Proxar Lenses use designations as given below.

C a m e r a	D i s t a r				P r o x a r		
	Combined focal length, inches	Designation f. cameras		Combined focal length, inches	Designation f. cameras		
		without self-timing	with shutter		without self-timing	with shutter	
Icurette L $4\frac{1}{8}$ inch.	$5\frac{1}{2}$ 6		2.5×32 3×32	$3\frac{1}{2}$		2×32	
Nixe A $5\frac{1}{4}$ inch.	$7\frac{1}{4}$ $8\frac{3}{4}$	2×37 3×37	2×42 3×42	$4\frac{1}{4}$	2×37	2×42	
Nixe B 6 inch.	8 10	2×42 3×42	2×42 3×42	$4\frac{3}{4}$	2×42	2×42	
Maximar A $4\frac{1}{8}$ inch.	$5\frac{1}{2}$ 6		2.5×32 3×32	$3\frac{1}{2}$		2×32	
Maximar B $5\frac{1}{4}$ inch.	$7\frac{1}{4}$ $8\frac{3}{4}$		2×42 3×42	$4\frac{1}{4}$		2×42	
Ideal A $4\frac{1}{8}$ inch. $4\frac{3}{4}$ inch.	$5\frac{1}{2}$ $6\frac{3}{4}$		2.5×32 3×32	$3\frac{3}{4}$ $3\frac{3}{4}$		1.5×32 2×32	
Ideal B $5\frac{1}{4}$ inch. {	$7\frac{1}{4}$ $8\frac{3}{4}$ 10	2×37 3×37 3.5×37	2×42 3×42 3.5×42	$4\frac{1}{4}$	2×37	2×42	
6 inch. {	8 10	2×42 3×42	2×42 3×42	$4\frac{3}{4}$	2×42	2×42	
Trona $5\frac{1}{4}$ inch.	$8\frac{3}{4}$	3×51		$4\frac{3}{4}$	1.5×51		
Orix $6\frac{1}{2}$ inch.	$8\frac{1}{2}$ 11	1.5×51 2.5×51		$5\frac{1}{2}$	1.5×51		
Universal Juwel A 6 inch. {	8 10 $11\frac{1}{4}$	2×42 3×42 3.5×42		$4\frac{3}{4}$	2×42		
$6\frac{1}{2}$ inch. {	$8\frac{1}{2}$ 11 $12\frac{1}{2}$	1.5×51 2.5×51 3×51		$5\frac{1}{2}$	1.5×51		
Universal Juwel B $8\frac{1}{4}$ inch.	$11\frac{3}{4}$ $13\frac{1}{4}$ 16	1.5×57 2×57 2.5×57		7	1×57		

* To use Proxars on single extension cameras or cameras not equipped with ground glass, would require the fitting of a secondary special infinity scale on the camera bed.

Zeiss Ikon Cameras



ICARETTE L

For Rollfilms and Plates

Rollfilms: $2\frac{1}{4} \times 3\frac{1}{4}$ "

Plates: $2\frac{1}{2} \times 3\frac{1}{2}$ "
($6\frac{1}{2} \times 9$ cm.)

Icarette L is a most versatile camera since it uses both rollfilms and plates. It embodies all the features of the more advanced models of Zeiss Ikon rollfilm cameras.

The famous Carl Zeiss Tessar F/4.5 lens is fitted in the new Compur shutter with the self-timing device which allows the photographer approximately 12 seconds to get into his own pictures, before the exposure.

Another feature of this camera is its hinged back, fitted with a panel which is readily removable so that a focusing back, plate holder or film pack adapter may be inserted for the use of plates or cut films $2\frac{1}{2} \times 3\frac{1}{2}$ " ($6\frac{1}{2} \times 9$ cm.) as well as of film packs $2\frac{1}{4} \times 3\frac{1}{4}$ ". The $7\frac{1}{2}$ " double bellows extension permits the use of Zeiss supplementary lenses, Distar and Proxar.

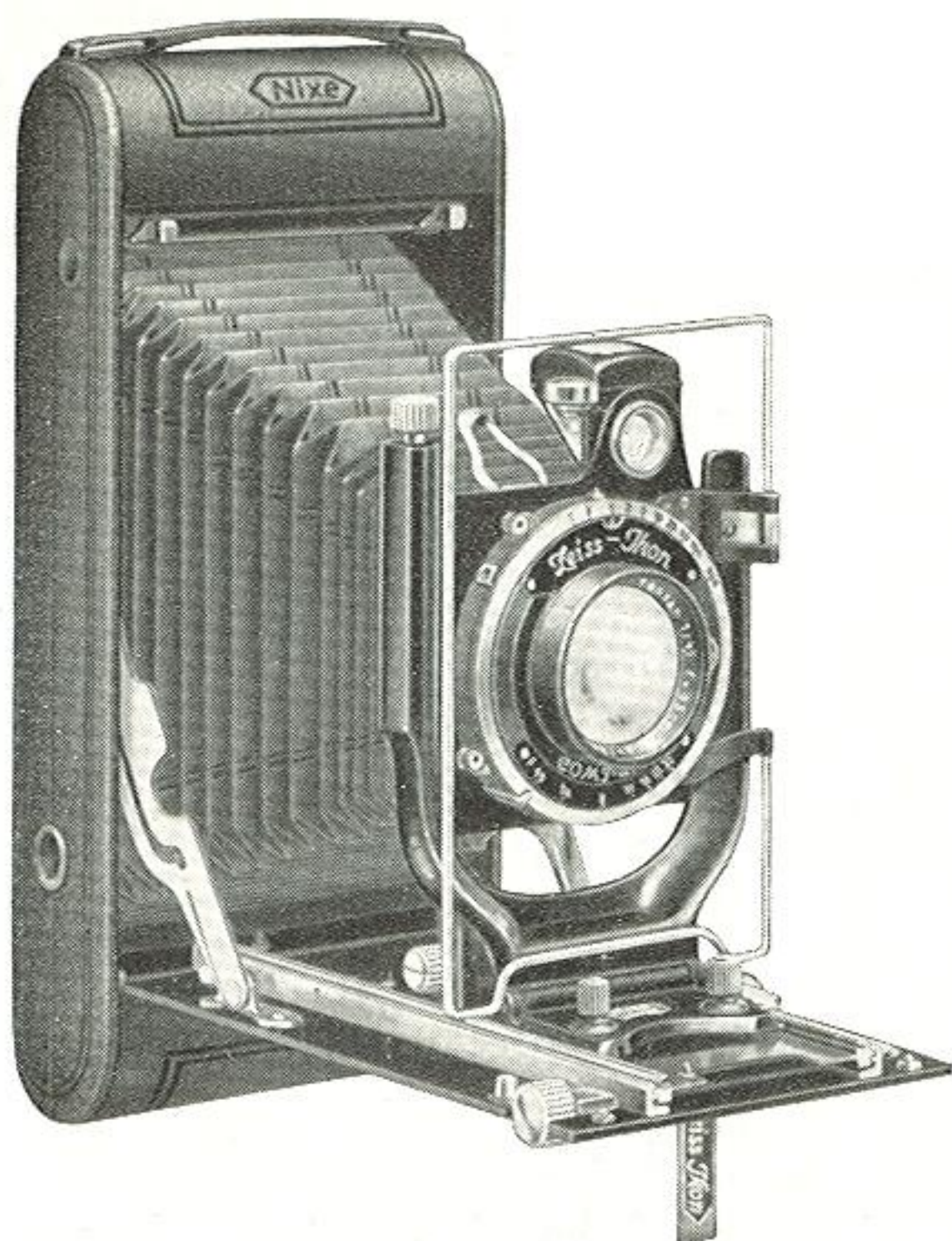
The camera front can be raised or lowered by means of a micrometer screw. The Ikonometer, a wire view finder, as well as a brilliant finder are part of the standard equipment of this camera.

The Icarette L is constructed entirely of sturdy light metal which is well-finished in black enamel and nickel. The camera body and bellows are made of genuine black leather.

This camera is supplied with a leather case.

Picture Size .. Rollfilms: $2\frac{1}{4} \times 3\frac{1}{4}$ inches. Plates: $2\frac{1}{2} \times 3\frac{1}{2}$ inches ($6\frac{1}{2} \times 9$ cm.)
Lens Zeiss Tessar F/4.5 of $4\frac{1}{8}$ inch focal length
Shutter New Compur with cable and finger release and self-timing device
Speeds 1 to $\frac{1}{250}$ sec. Time and Bulb
Camera Size .. $1\frac{5}{8} \times 3\frac{1}{4} \times 7$ inches. Weight: 31 ozs.

Leiss Ikon Cameras



NIXE A and B

For Rollfilms,
Plates, or Film Packs

Model A : $3\frac{1}{4} \times 4\frac{1}{4}$ "

Model B : $3\frac{1}{4} \times 5\frac{1}{2}$ "

No more complete or better roll-film cameras than the Nixe A and B have ever been made. These most unusual models can be used either with rollfilms, plates or film packs.

Both of these cameras are equipped with the celebrated Carl Zeiss Tessar F/4.5 lens in the new Compur shutter with the self-timing device which allows the photographer approximately 12 seconds to get into his own pictures, before the exposure.

These cameras have ample vertical and horizontal front movements, useful for photographing buildings or eliminating objectionable foreground. These adjustments are operated by means of a simple micrometer screw. In addition to the brilliant view finder, there is an Ikonometer wire finder which shows in its frame the picture to be taken. When looking through the peep-sight and Ikonometer, the visible image is always correct regardless of the position of the camera front or bellows extension.

The double extension bellows allow the use of Zeiss Distar and Proxar supplementary lenses. The back of the Nixe is fitted with a removable panel and pressure plate. When these are removed, a focusing back, plate holder or film pack adapter can be inserted.

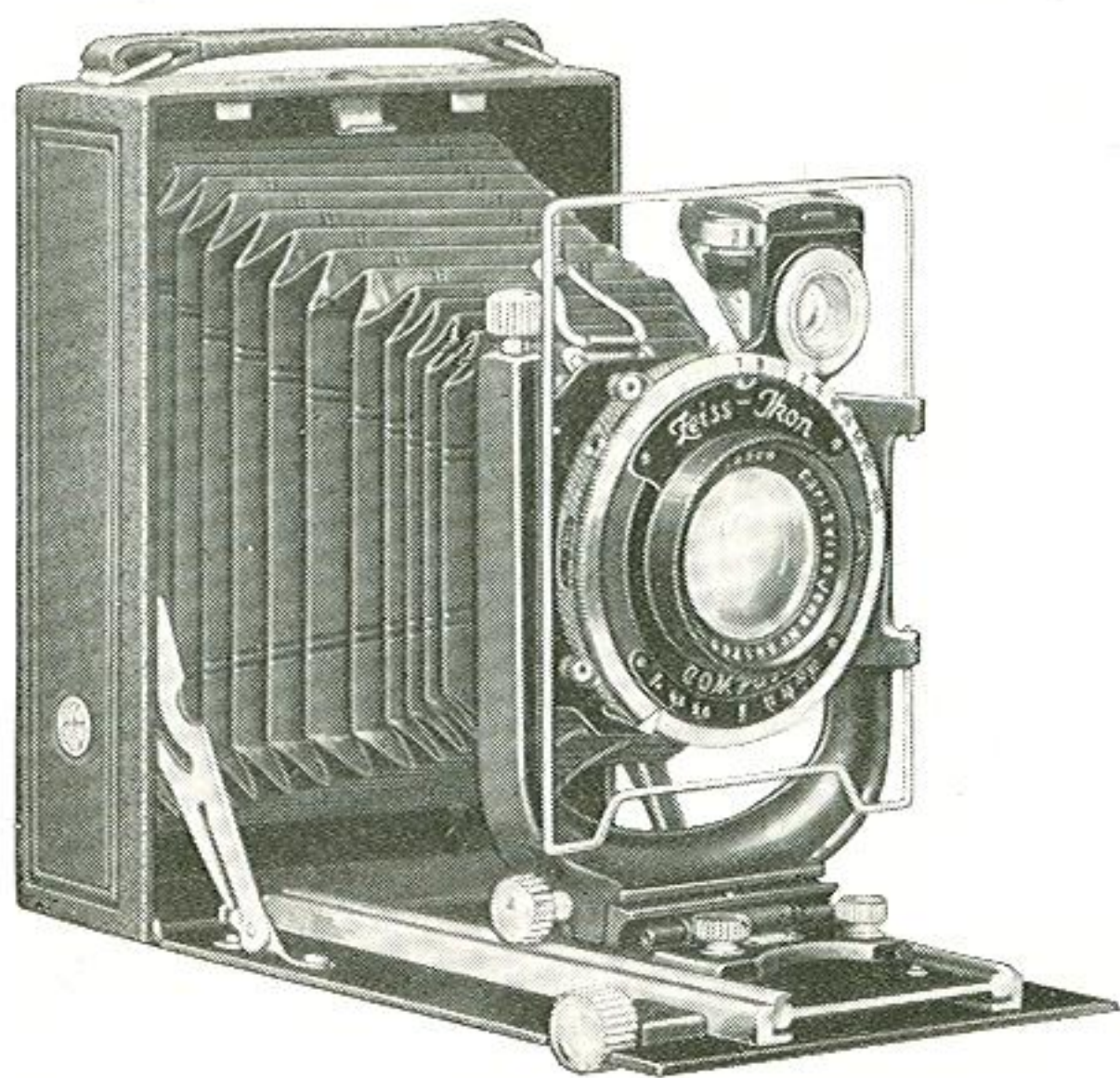
The new swivel film holding device simplifies loading and assures perfect alignment, supplying just sufficient tension to keep the film absolutely flat at all times.

Nixe A and B are constructed of a special light metal which is attractively finished in durable black enamel with nickel trimmings and covered with selected black grain leather.

Each of these models is furnished with a leather case.

Picture Size .. Nixe A, $3\frac{1}{4} \times 4\frac{1}{4}$ inches. Nixe B, $3\frac{1}{4} \times 5\frac{1}{2}$ inches
Lens Zeiss Tessar F/4.5 Nixe A, $5\frac{1}{4}$ inch; Nixe B, 6 inch focal length
Shutter New Compur with cable and finger release and self-timing device
Speeds 1 to $\frac{1}{200}$ sec. Time and Bulb
Bellows Nixe A, $10\frac{1}{4}$ inch extension; Nixe B, $12\frac{1}{2}$ inch extension
Camera Size .. Nixe A, $1\frac{3}{4} \times 4\frac{1}{4} \times 8\frac{3}{8}$ inches; Nixe B, $1\frac{3}{4} \times 4\frac{3}{8} \times 9\frac{1}{2}$ inches
Weight Nixe A, 44 ozs.; Nixe B, 52 ozs.

Zeiss Ikon Cameras



MAXIMAR

A and B

For Plates and Film Packs

Plates

Model A: $2\frac{1}{2} \times 3\frac{1}{2}$ "
($6\frac{1}{2} \times 9$ cm.)

Model B: $3\frac{1}{2} \times 4\frac{3}{4}$ "
(9×12 cm.)

Film Packs

Model A: $2\frac{1}{4} \times 3\frac{1}{4}$ "

Model B: $3\frac{1}{2} \times 4\frac{3}{4}$ "

Maximar A and B have many of the features of the advanced models, yet they are moderately priced. They are the ideal plate and film pack cameras for the amateur who is beginning to do all of his work with a plate camera instead of a rollfilm camera.

The outstanding feature which puts Zeiss Ikon cameras in a position of leadership in the camera world, is also incorporated in these models — that is the Carl Zeiss Tessar F/4.5 lens. It is mounted in the new Compur shutter with self-timing device which allows the photographer approximately 12 seconds to get into his own picture, before the exposure.

Both models have double extension bellows which permit the use of Zeiss Distar and Proxar supplementary lenses. Ample vertical and horizontal movement enables the photographer to make architectural as well as the more difficult shots.

These popular models also have the brilliant view finder as well as the Ikonometer wire finder. What you see through the Ikonometer is what you get in your picture.

The ground glass back has a large focusing hood which renders the use of a focusing cloth unnecessary.

Maximar B is supplied with $3\frac{1}{4} \times 4\frac{1}{4}$ " kits for plates and film packs.

The Maximar models are constructed of all metal, well-finished, and covered with genuine grain leather.

Picture Size . Maximar A, $2\frac{1}{2} \times 3\frac{1}{2}$ inches. Maximar B, 9×12 cm. ($3\frac{1}{2} \times 4\frac{3}{4}$ in.)

Lens Zeiss Tessar F/4.5, Model A, $4\frac{1}{8}$ inch; Model B, $5\frac{1}{2}$ inch focal length

Shutter New Compur with cable and finger release and self-timing device

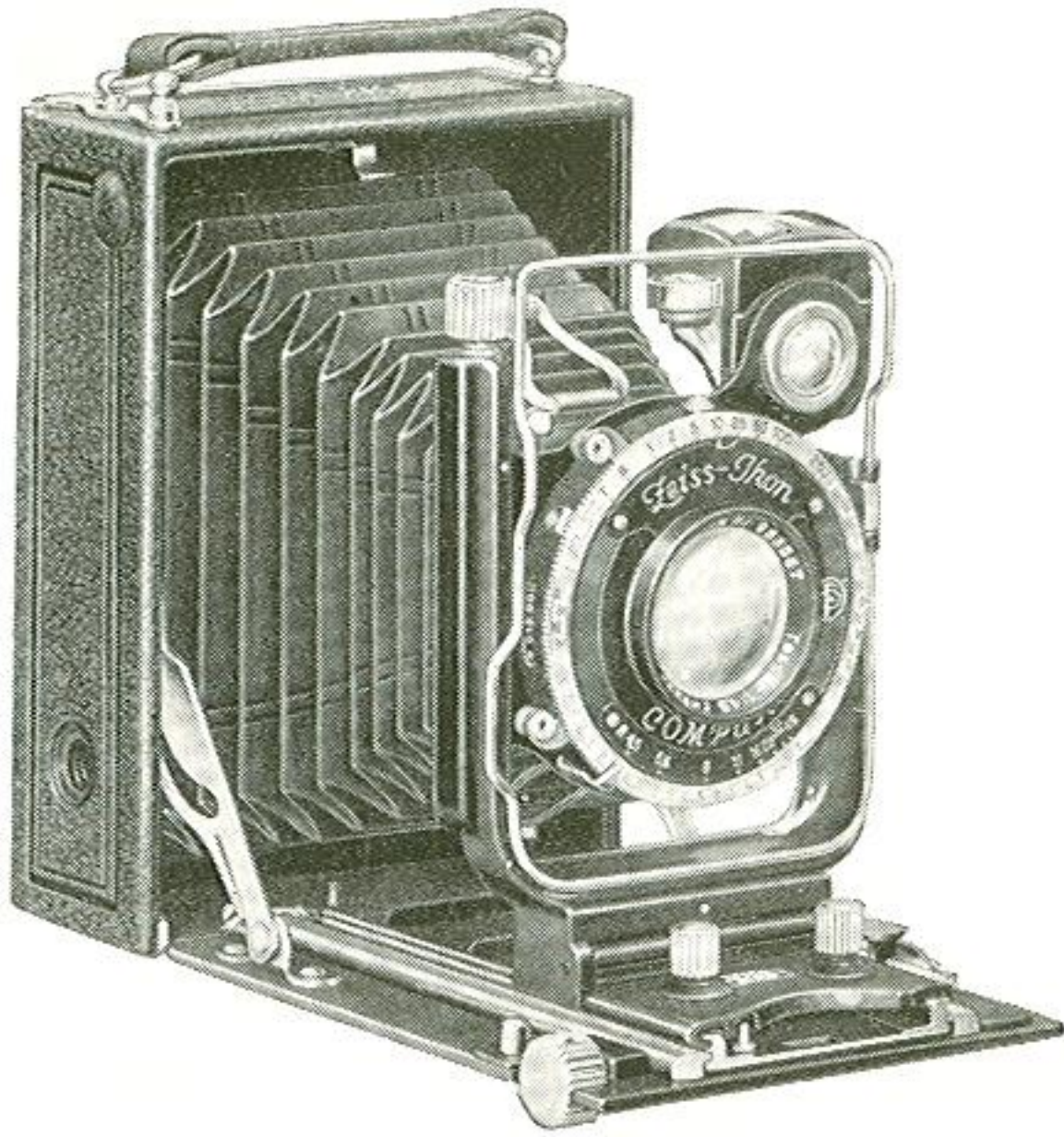
Speeds Model A, 1 to $\frac{1}{250}$ sec. Time and Bulb; Model B, 1 to $\frac{1}{200}$ sec.
Time and Bulb

Bellows Model A, $8\frac{1}{4}$ inch extension; Model B, $10\frac{1}{2}$ inch extension

Camera Size . Model A, $1\frac{7}{8} \times 3\frac{1}{4} \times 5$ inches; Model B, $2\frac{1}{4} \times 4\frac{3}{8} \times 6\frac{1}{4}$ inches

Weight Model A, 25 ozs.; Model B, 40 ozs.

Zeiss Ikon Cameras



I D E A L A

For Plates and Film Packs

Plates

$2\frac{1}{2} \times 3\frac{1}{2}$ " ($6\frac{1}{2} \times 9$ cm.)

Film packs

$2\frac{1}{4} \times 3\frac{1}{4}$ "

For its size, no more versatile plate camera can be found than the Ideal A. Practically every adjustment that serious work calls for is embodied in this camera. At the same time, it is not too complicated nor too heavy to be carried about conveniently.

The famous Carl Zeiss Tessar F/4.5 lens is fitted to this camera. And the new Compur shutter with the self-timing device which allows you approximately 12 seconds to get into your own pictures, before the exposure, is also a feature.

The Ideal A has an $8\frac{1}{2}$ " double bellows extension which permits focusing on objects as close as 9" from the camera, a decided advantage in making copies or photographing small objects. Zeiss supplementary lenses Distar and Proxar can be used on this camera.

The lens front of the Ideal A has both vertical and horizontal movements of one inch, considerable for a camera of this size. These adjustments, combined with the long extension, are most important in architectural photography.

The Ikonometer wire finder indicates correctly at all times the exact composition of the picture to be made. A brilliant view finder is also included.

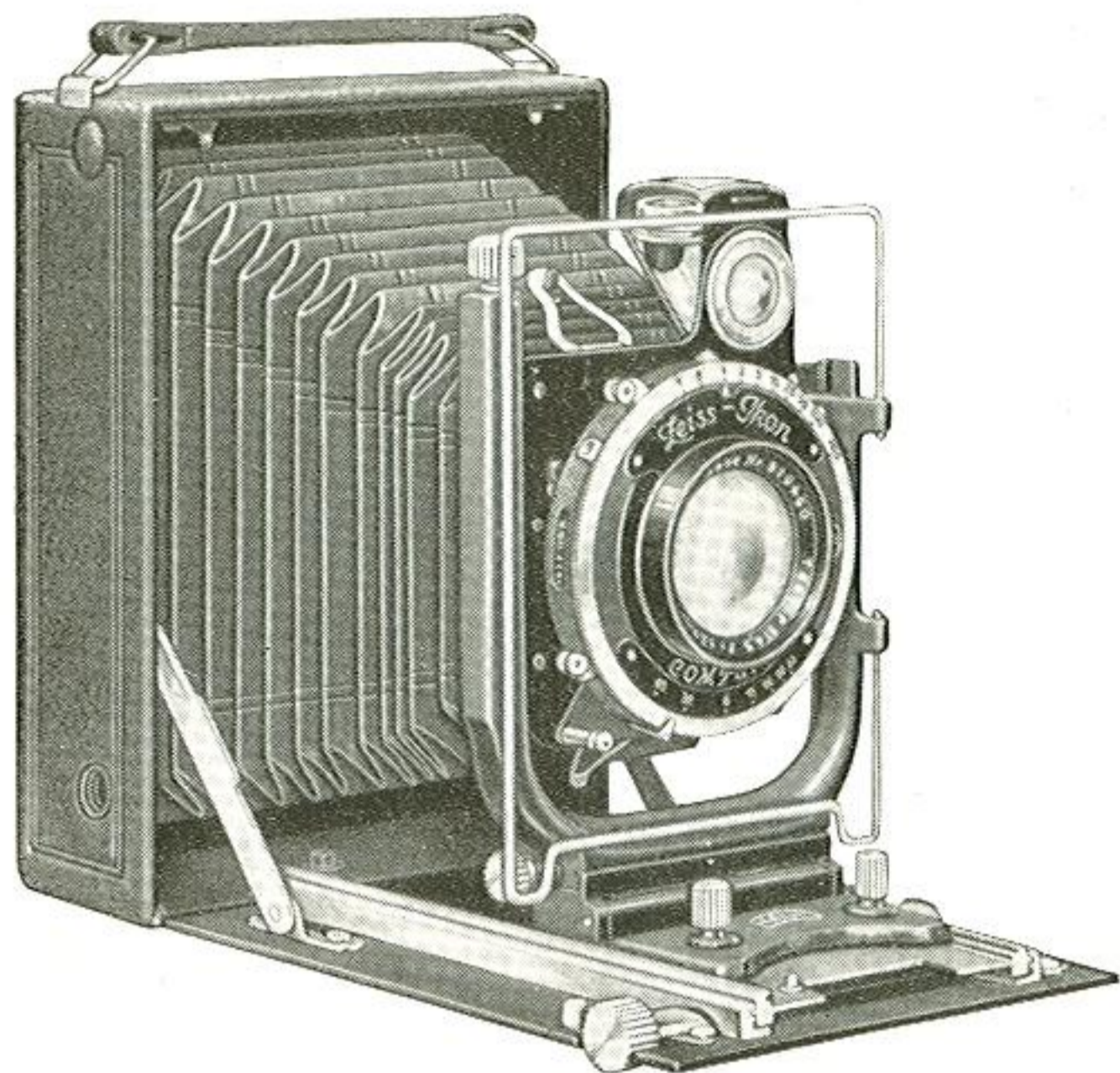
For critical work, focusing may be done while viewing the image on the hooded ground glass. Focusing is accomplished by means of rack and pinion adjustment and can be locked at any desired point. The bellows are fitted with an automatic take-up which eliminates the possibility of sagging and cutting off part of the picture.

Ideal A is built of light metal, finished in polished black enamel, and covered with pin grain seal leather.

Also furnished with the Ideal A are three single metal plate holders, film pack adapter, and leather carrying case.

Picture Size .. For plates: $2\frac{1}{2} \times 3\frac{1}{2}$ inches, for film packs: $2\frac{1}{4} \times 3\frac{1}{4}$ inches
Lens Zeiss Tessar F/4.5 of $4\frac{3}{4}$ inch focal length and $4\frac{1}{8}$ inches
Shutter New Compur with cable and finger release and self-timing device
Speeds 1 to $\frac{1}{250}$ sec. Time and Bulb
Bellows Black leather, $8\frac{1}{2}$ inch extension
Camera Size .. $1\frac{7}{8} \times 3\frac{5}{8} \times 5\frac{3}{16}$ inches. Weight: 23 ozs.

Zeiss Ikon Cameras



IDEAL B

For Plates

and Film Packs

$3\frac{1}{2} \times 4\frac{3}{4}$ " (9×12 cm.)

Three special features make the Ideal B one of the outstanding cameras of the Zeiss Ikon line. The first is a vertical swing back, the second the interchangeable lens and shutter, and the third the clamp-on back.

The swing back is advantageous when long extended objects are to be photographed at a lateral angle from above or below. It eliminates objectionable foreground and keeps your films or plates always parallel with the object.

In the Ideal B, the entire lens in its mount with the shutter can be removed with one turn of your hand. This is an especially valuable feature when you want to use different lenses for various purposes. The original shutter is held in place with a bayonet lock.

The clamp-on feature facilitates the operation of this camera, as the ground glass back, film pack adapter or plate holder are dropped into position without the slightest jar or effort.

Of course, this camera is also fitted with the well-known Carl Zeiss Tessar F/4.5 lens mounted in the new Compur shutter which allows you approximately 12 seconds to get into your own picture, before the exposure.

The Ideal B has a double bellows extension of $11\frac{1}{4}$ " which permits you to make pictures of objects within 11" of the camera. Zeiss Distar and Proxar supplementary lenses can also be used.

The accurate Ikonometer wire finder which shows, at every variation in the angle of view, the exact composition of the picture, is standard equipment. A large brilliant view finder is also included.

The Ideal B is sturdily constructed of all metal, finished in black enamel and nickel, and is covered with fine grain leather.

A leather carrying case, 3 single metal plate holders, film pack adapter, and $3\frac{1}{4} \times 4\frac{1}{4}$ " kits for plates and film packs, are supplied with this camera.

Picture Size . . . $3\frac{1}{2} \times 4\frac{3}{4}$ inches (9×12 cm.)

Lens Zeiss Tessar F/4.5 of $5\frac{1}{4}$ or 6 inch focal length

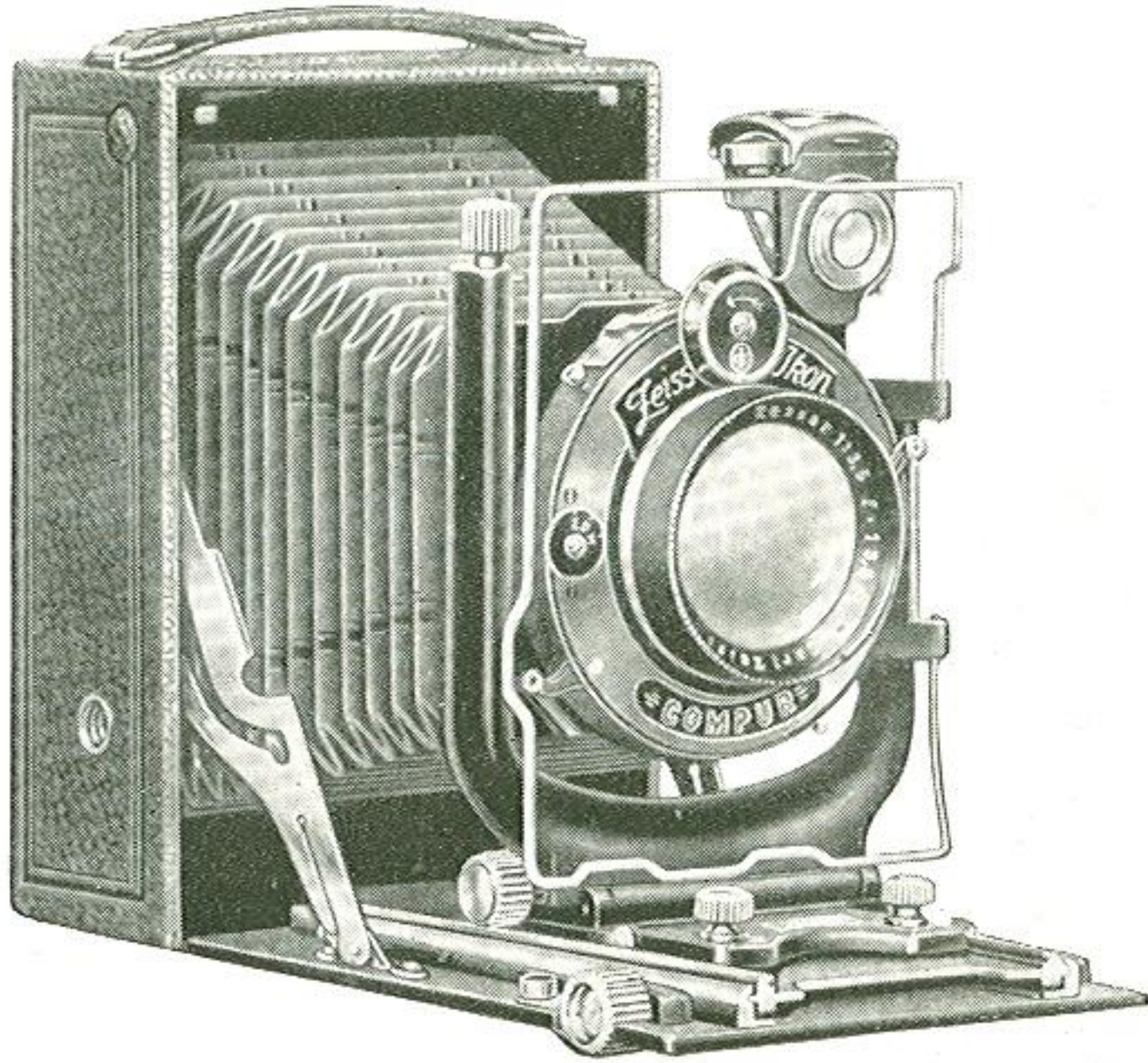
Shutter New Compur with cable and finger release and self-timing device

Speeds 1 to $\frac{1}{200}$ sec. Time and Bulb

Bellows Black leather $11\frac{1}{4}$ inch extension

Camera Size . . . $2 \times 4\frac{3}{4} \times 6\frac{1}{2}$ inches. Weight: 46 ozs.

Zeiss Ikon Cameras



TRONA

For Plates
and Film Packs

$3\frac{1}{2} \times 4\frac{3}{4}$ " (9 × 12 cm.)

The feature of the Trona is the extra rapid Carl Zeiss Tessar F/3.5 lens.

The rapidity of the Zeiss Tessar F/3.5 lens opens up entirely new avenues of photography for the user of a Trona. Indoor portraits and sport shots requiring short exposures are made without difficulty or independent of weather conditions. Even on dull days, the Zeiss Tessar F/3.5 will prove fast enough for all instantaneous exposures, for it gives remarkable brilliancy and clear definition while covering a large field.

The long bellows extension of $10\frac{1}{2}$ " enables the photographer to make pictures within 12 inches of the camera without using a supplementary lens. For distant objects, this long bellows extension can be used to excellent advantage with the Zeiss Distar supplementary lens. It is also possible to use the Zeiss Proxar supplementary lens with this camera. Focusing is done by means of a rack and pinion adjustment which may be set for any distance.

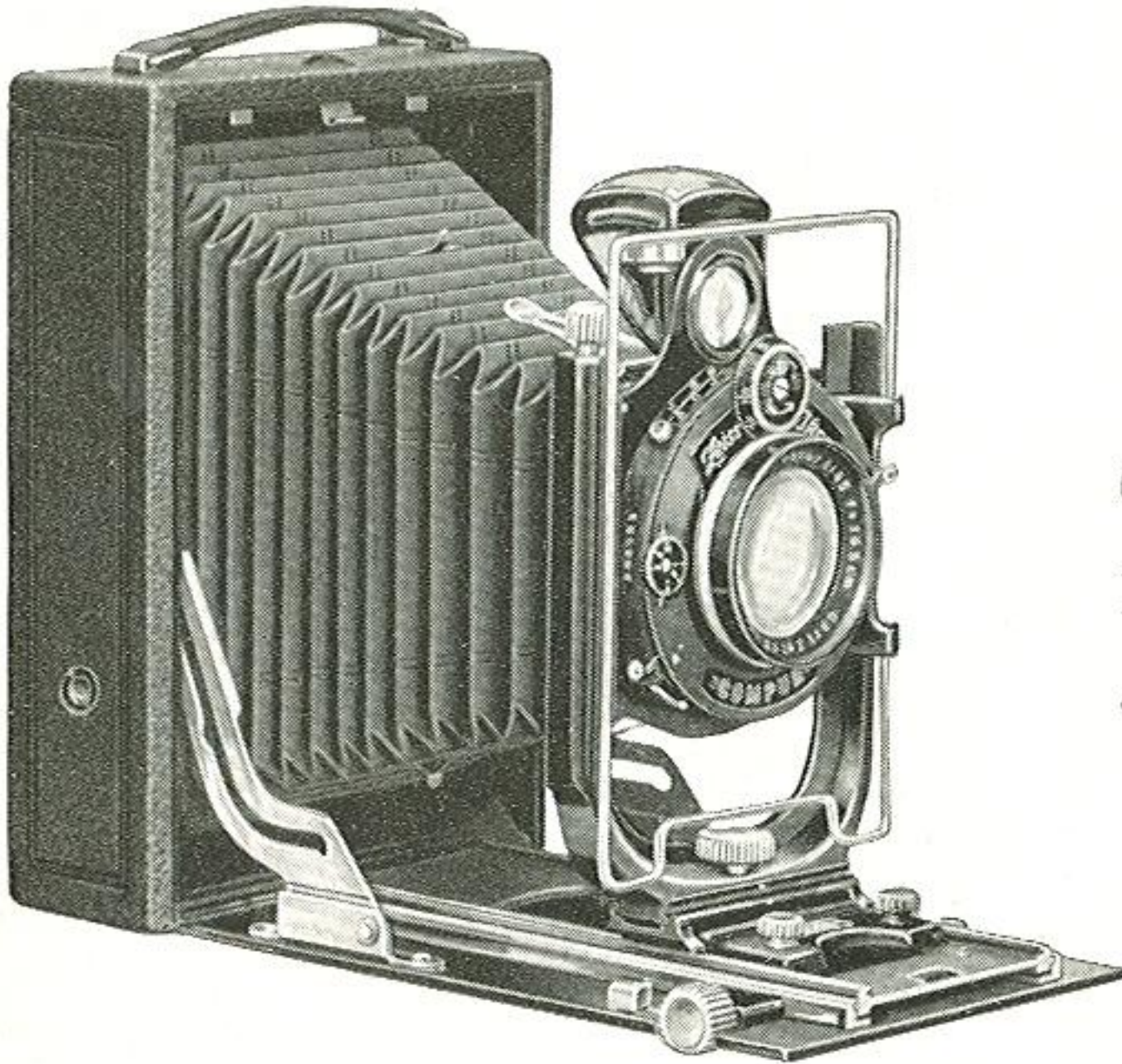
The Ikonometer, an accurate wire finder, always shows the exact composition of the picture. A large brilliant view finder is also provided.

The Trona is built rigidly of light metal, finished in black enamel with nickel, and covered with genuine leather.

Three metal plate holders, a film pack adapter, and $3\frac{1}{4} \times 4\frac{1}{4}$ " kits for plates and film packs, as well as a leather carrying case are supplied with the Trona.

Picture Size $3\frac{1}{2} \times 4\frac{3}{4}$ inches (9 × 12 cm.)
Lens Zeiss Tessar F/3.5 of $5\frac{1}{4}$ inch focal length
Shutter Compur with cable and finger release
Speeds 1 to $\frac{1}{200}$ sec. Time and Bulb
Bellows $10\frac{1}{2}$ inch extension
Camera Size $2\frac{3}{8} \times 4\frac{1}{2} \times 6$ inches. Weight: 48 ozs.

Zeiss Ikon Cameras



ORIX

For Plates and Film Packs

4 × 6" (10 × 15 cm.)

The Orix is being used by the leading newspapers throughout the United States as the most satisfactory camera for press work, a very difficult branch of photography.

It is a compact camera which makes pictures which can be easily enlarged for newspaper reproduction. The Orix is equipped with the well-known Carl Zeiss Tessar F/4.5 lens which gives excellent definition and has sufficient latitude for every photographic requirement. This camera has proved reliable in failing light and under the most trying weather conditions.

Simplicity of operation is another feature of this camera, for it is focused by means of a simple rack and pinion mechanism. The Orix has double extension bellows of 13½" which permit the use of Zeiss Distar and Proxar supplementary lenses. It has also vertical and horizontal front movements of 1½" and ¾" respectively, advantageous in eliminating objectionable foreground and in making architectural and the more difficult shots.

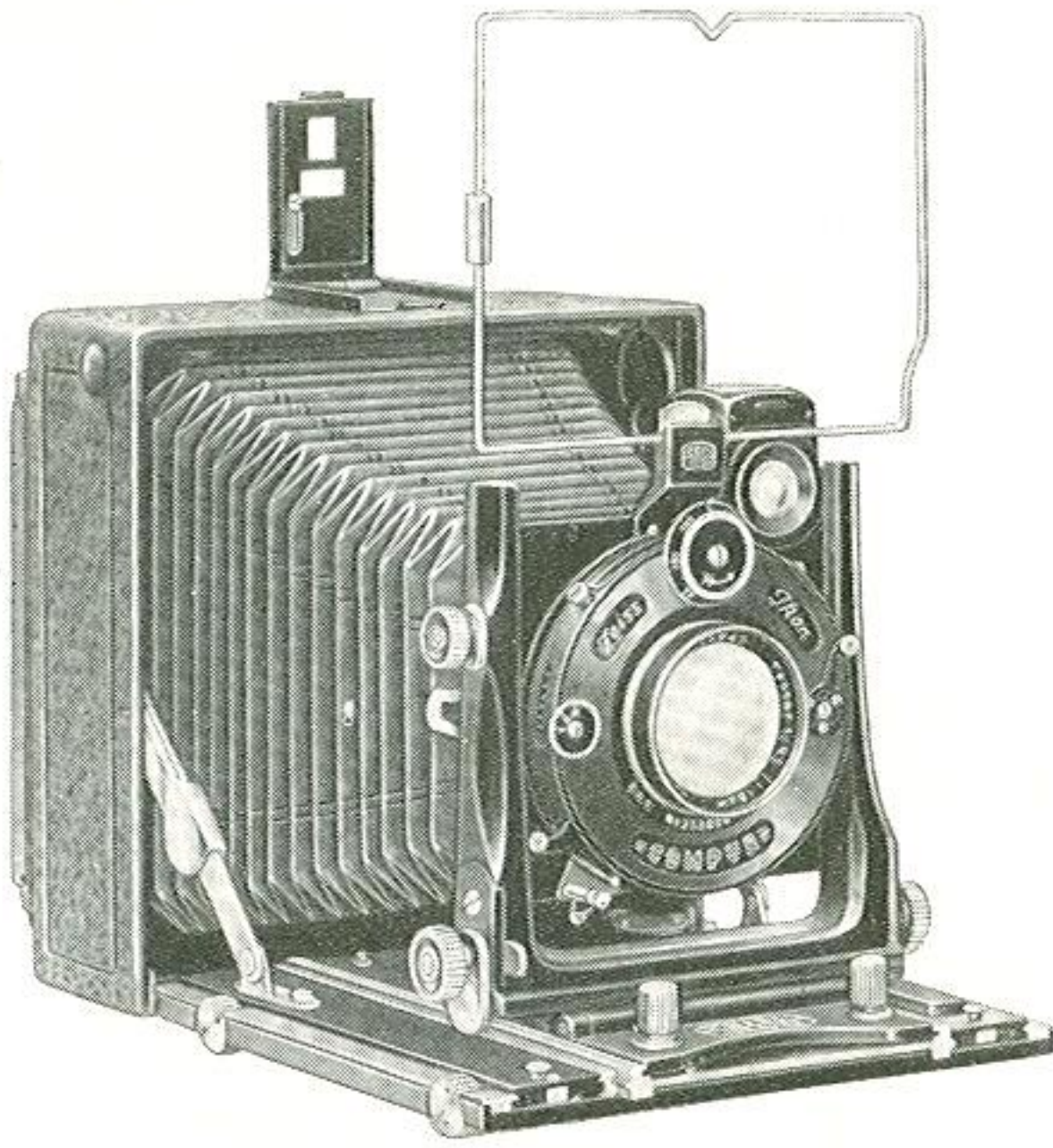
A special press outfit is fitted with a special spring back facilitating the changing of plates and film packs. The Ikonometer wire finder, always an accurate index of the composition of your pictures is also attached as well as a large brilliant view finder.

The Orix is of specially rigid construction. The wooden body is covered with genuine leather and finished with black enamel and nickel.

The Orix is supplied with a leather carrying case, 3 plate holders and film pack adapter. The special press outfit consists of the camera with spring back, 12 plate holders, and 2 cable releases.

Picture Size 4 × 6 inches (10 × 15 cm)
Lens Zeiss Tessar F/4.5 of 6½ inch focal length
Shutter Compur with cable and finger release
Speeds 1 to 1/200 sec. Time and Bulb
Bellows Black leather, 13½ inch extension
Camera Size 27/8 × 5¼ × 7¾ inches. Weight: 54 ozs.

Zeiss Ikon Cameras



UNIVERSAL JUWEL A

For Plates and Film Packs
 $3\frac{1}{4} \times 4\frac{1}{4}$ " (9 × 12 cm.)

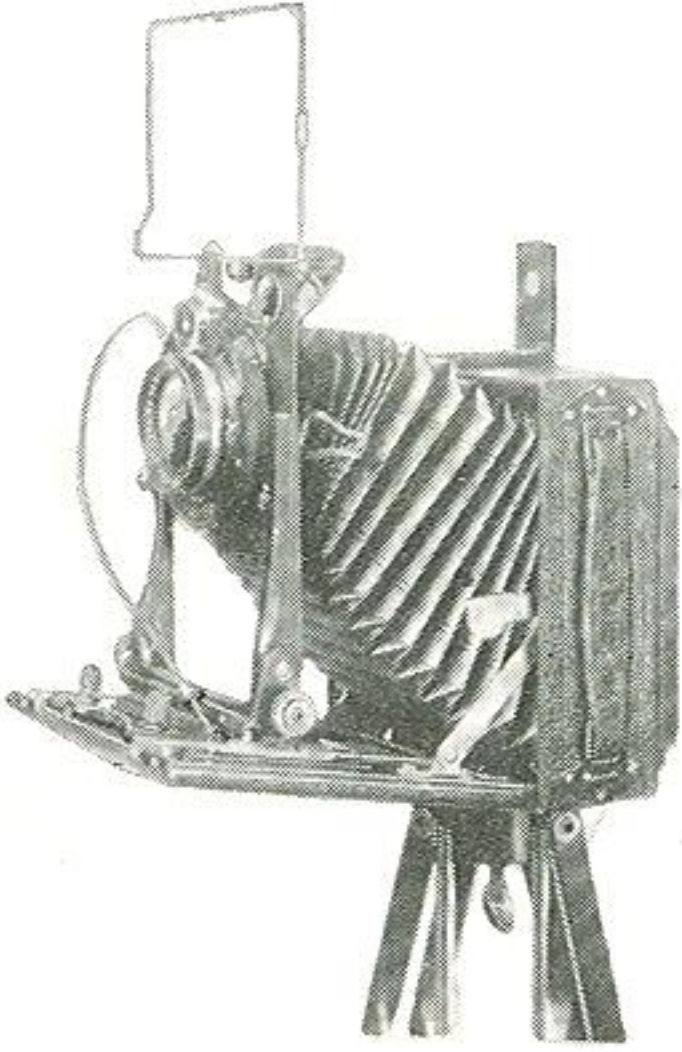
The Universal Juwel A is the last word in camera manufacture, for it includes every feature which has special appeal for the enthusiastic advanced amateur, the artist-photographer, and the scientist. This camera is most appropriate for all branches of photography.

On the following page you can see the extreme horizontal and vertical movements, the tilting feature of the back and the lens front, and the triple extension bellows. The vertical and horizontal front movements are operated by simple micrometer screw adjustments. By means of rack and pinion focusing screws, the front and back of the camera may be tilted at any angle.

The Universal Juwel A has a revolving back, enabling horizontal and vertical exposures to be made without the necessity of turning the entire camera. Plates, film packs and adapters are clamped-on which insures easy manipulation.

This camera is fitted with a Carl Zeiss Tessar F/4.5 lens and its bellows extension of 16" permits the use of Zeiss Distar and Proxar supplementary lenses resulting in a variety of focal lengths. The necessary stability of such long extension bellows is maintained at all times, because the center of gravity remains constantly in the center of the camera. The Universal Juwel is well adapted to wide-

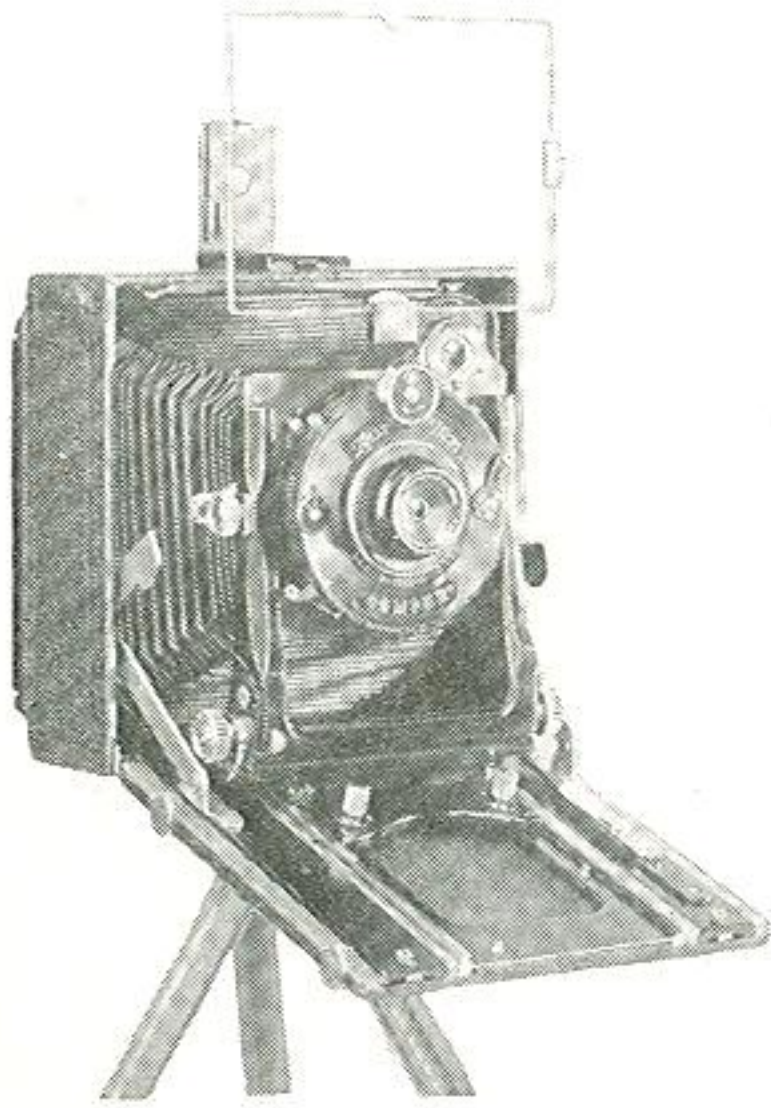
Leiss Ikon Cameras



angle work with a Carl Zeiss wide-angle Protar lens of $3\frac{3}{8}$ " focal length. If a wide-angle lens is used, the camera bed may be lowered and the front set parallel with the back.

This camera is constructed of light metal covered with genuine leather, and finished in black enamel with nickel trimmings.

A leather carrying case, 6 single metal plate holders, a film pack adapter, and $3\frac{1}{4} \times 4\frac{1}{4}$ " kits for plates and film packs are supplied with each Universal Jewel A.

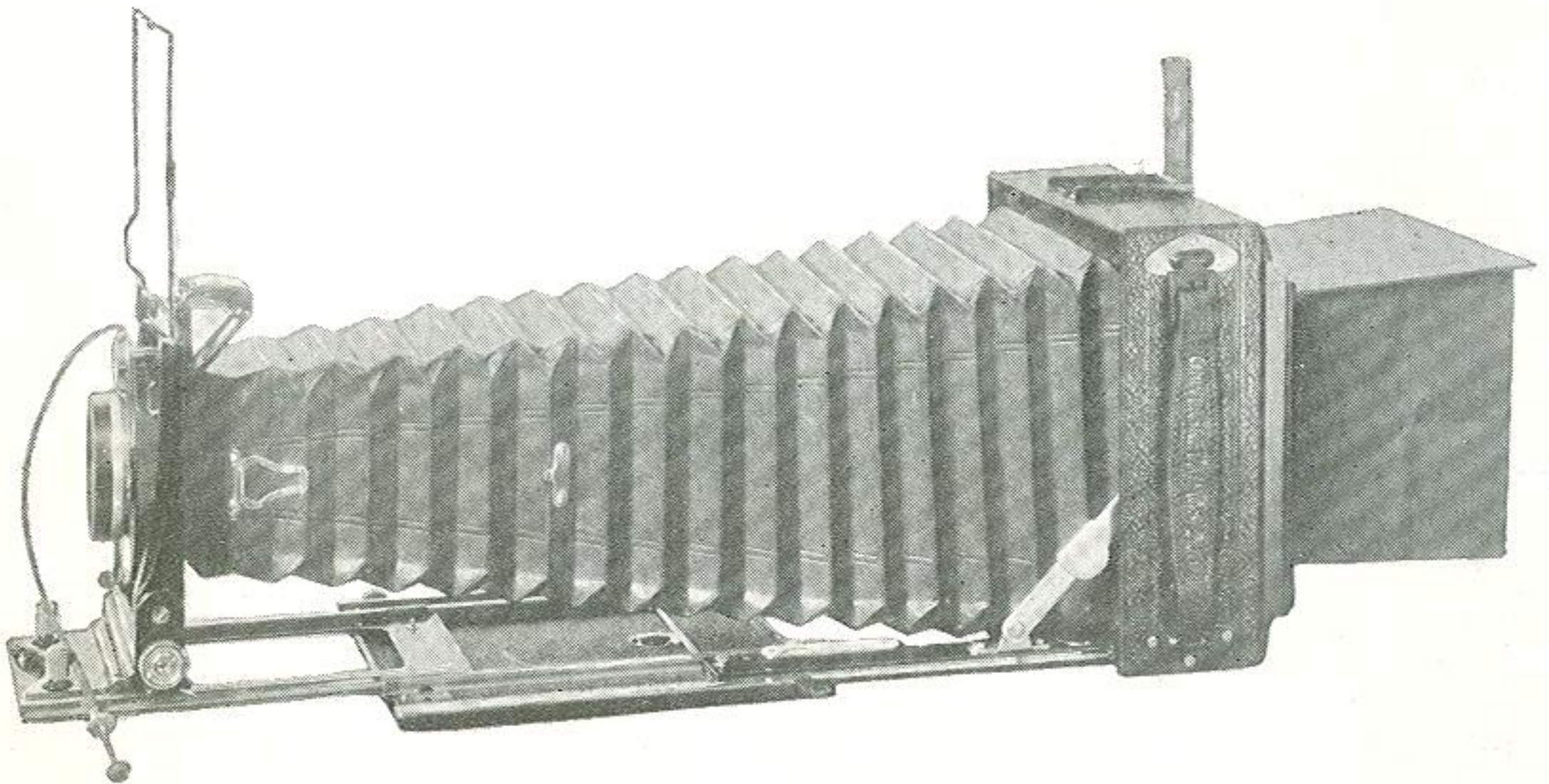


Picture Size: $3\frac{1}{4} \times 4\frac{1}{4}$ inches or (9 × 12 cm.)
Lens: Zeiss Tessar F/4.5, 6 or $6\frac{1}{2}$ inch focal length

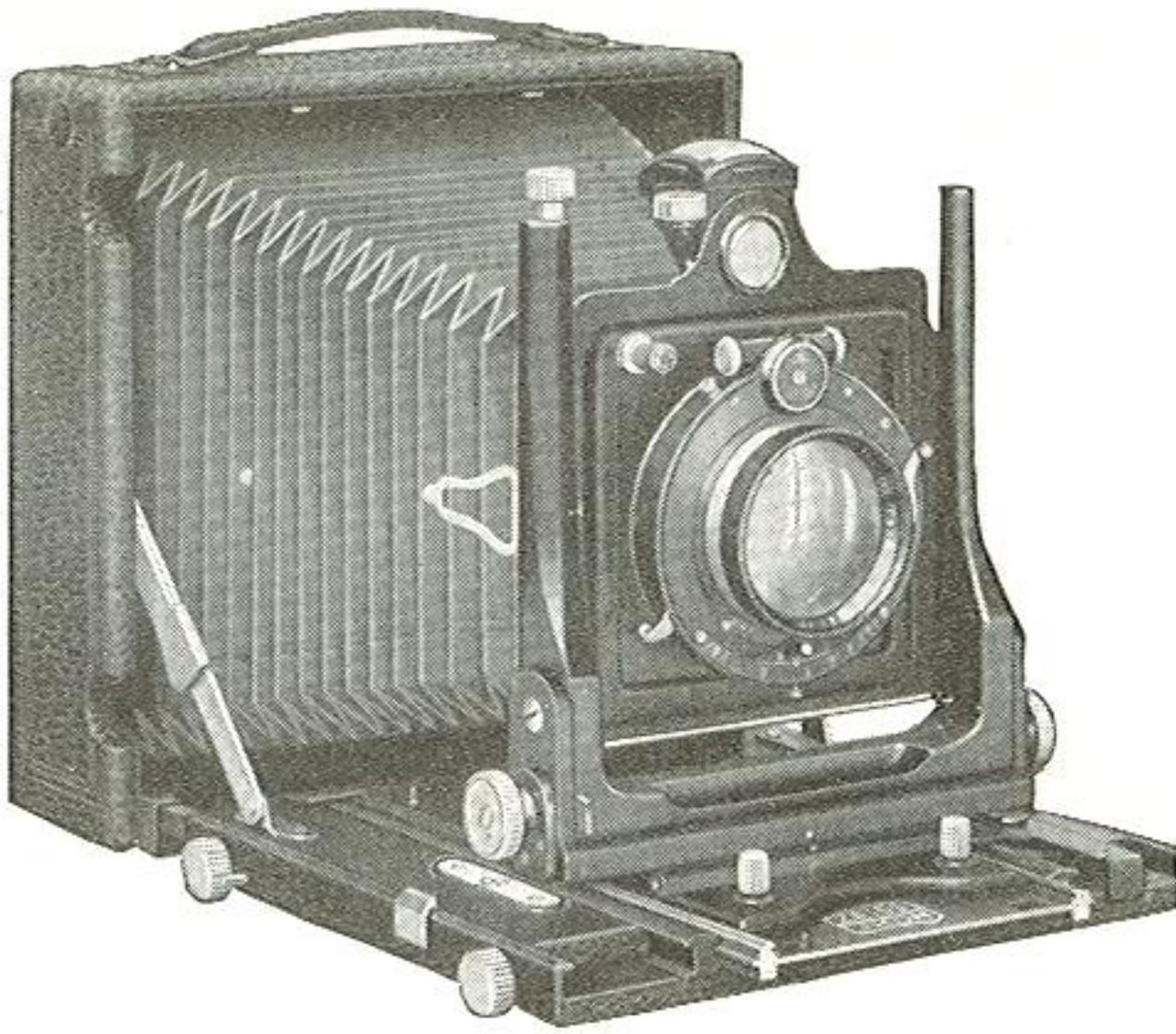
Shutter: . . . Compur with cable and finger release

Speeds: 1 to $\frac{1}{200}$ sec. Time and Bulb

Bellows: . . . Black leather, 16 inch extension



Leiss Ikon Cameras



UNIVERSAL JUWEL B

For Plates
and Film Packs 5 × 7"

The aristocrat of all cameras, the Universal Juwel B, may well be termed the "camera with unlimited possibilities". It is a jewel in appearance as well as in name, microscopically accurate in adjustments, structurally correct, and of perfect design.

Of considerable importance is the Carl Zeiss Tessar F/4.5 lens which makes this camera suitable for all branches of photography where optical excellence is required.

The front of the Universal Juwel B has extreme vertical and horizontal movements, operated by rack and pinion focusing screws. Both the lens standard and revolving back of this camera have swing adjustments so that even when the camera is pointed upward at an angle, the lens and plate may be set vertical and parallel with each other. These outstanding adjustments are the same as illustrated on the preceding pages for the Universal Juwel A. In photographing many subjects, these movements are absolutely essential to enable one to obtain the best results.

The plate holder or film pack adapter of this camera is clamped in position by the slight pressure of a button, an exclusive and valuable feature. The large focusing hood eliminates the necessity of a focusing cloth.

The Universal Juwel B is constructed of ebonized hardwood, reinforced by metal. The leather covered body gives the camera an elegant appearance.

With this camera are included 3 double wooden plate holders and a leather carrying case.

Picture Size 5 × 7 inches
Lens Zeiss Tessar F/4.5 of 8¹/₄ inch focal length
Shutter Compound with cable and finger release
Speeds 1 to 1/100 sec. Time and Bulb
Bellows Black leather, 19 inch extension
Camera Size 3¹/₂ × 9 × 9 inches. Weight: 8 lbs. 4 ozs.

Leiss Ikon Cameras



M I R O F L E X

A and B

For Plates and Film Packs

Plates

Model A: $2\frac{1}{2} \times 3\frac{1}{2}$ " ($6\frac{1}{2} \times 9$ cm.)

Model B: $3\frac{1}{2} \times 4\frac{3}{4}$ " (9×12 cm.)

Film Packs

Model A: $2\frac{1}{4} \times 3\frac{1}{4}$ "

Model B: $3\frac{1}{2} \times 4\frac{3}{4}$ " (9×12 cm.)

The Miroflex A and B is a fascinating camera which combines the advantages of a sport camera, with those of a reflex camera, thus enabling a photographer to master many photographic techniques.

Right up to the moment of exposure, the object can be viewed in the reflex mirror of this camera, and adjustments can be made up to the last second. The super-high speeds of the shutter are so fast that even the most rapidly moving object can be photographed with good results. The Miroflex can also be used as an ordinary camera on a tripod.

The camera is opened by very simple movements and is ready for use almost instantaneously. The mirror being spring-actuated, no time is lost between the release of the shutter and the observation of the image on the ground glass. The focal plane shutter has a remarkable range of speeds from $\frac{1}{3}$ to $\frac{1}{2000}$ second, including Time and Bulb. The shutter is set by a single knob, no separate adjustment being required for time and no variable speed tension is needed. In order to re-check the focusing on the ground glass, the shutter may be opened again, and it is not necessary to re-set the predetermined shutter speed for exposure.

Held by a neck strap, the Miroflex provides ideal operating conditions, as the object may be observed right side up and focused, up to the very moment of "shooting" the picture. Both Miroflex A and B

Zeiss Ikon Cameras

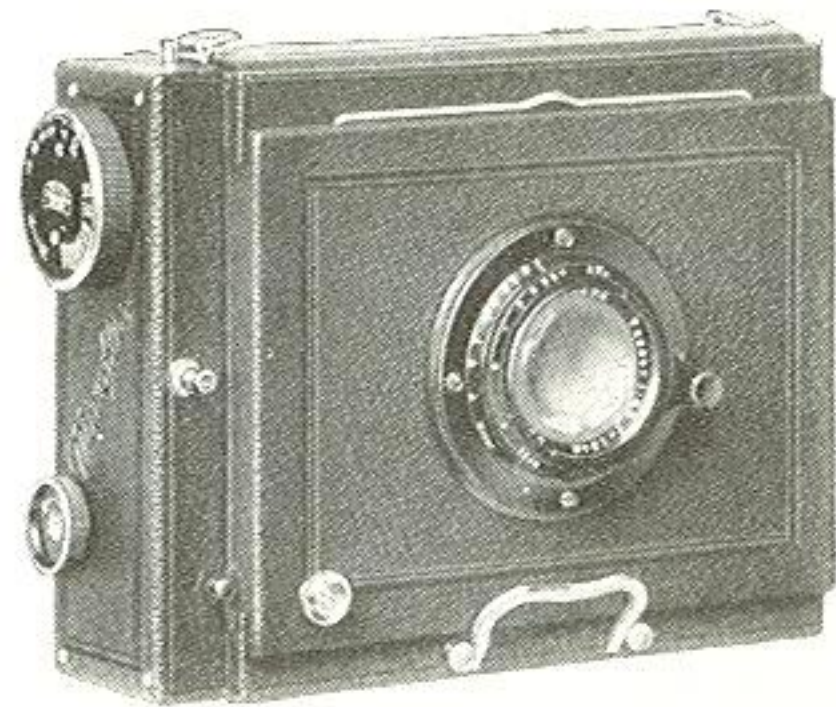
have the same features and are operated in the same manner.

The Miroflex cameras are fitted with the famous Carl Zeiss Tessar F/4.5, F/3.5, F/2.7 (Biotessar F/2.8) lenses and the sliding frontboard can also accommodate a Tele-Tessar F/6.3. It is possible to use any of the above lenses interchangeably.

The Miroflex cameras are fitted with bellows, and when folded are compact and convenient to carry. Pushing a button automatically unfolds the reflex hood, ready for immediate action.

These cameras are constructed of rigid, light metal finished with black enamel and nickel and covered with genuine leather.

Each of these cameras is supplied with a leather carrying case, 6 plate holders, film pack adapter and the Miroflex B has the additional equipment of $3\frac{1}{4} \times 4\frac{1}{4}$ " kits for plates and film packs.



Picture Size: Model A, $6\frac{1}{2} \times 9$ cm. ($2\frac{1}{2} \times 3\frac{1}{2}$ "'). Model B, 9×12 cm. ($3\frac{1}{2} \times 4\frac{3}{4}$ "')



Lens: Model A, Zeiss Tessar
F/4.5 of $4\frac{3}{4}$ inch focal length
F/3.5 of $4\frac{3}{4}$ inch focal length
F/2.8 of $5\frac{1}{4}$ inch focal length
Lens: Model B, Zeiss Tessar
F/4.5 of 6 inch focal length
F/3.5 of $6\frac{1}{2}$ inch focal length
F/2.7 of $6\frac{1}{2}$ inch focal length

Weight: Model A
with Tessar F/4.5, 3 lbs. 12 ozs.
with Tessar F/3.5, 4 lbs. 4 ozs.
with Tessar F/2.8, 4 lbs. 8 ozs.

Weight: Model B
with Tessar F/4.5, 5 lbs.
with Tessar F/3.5, $6\frac{1}{4}$ lbs.
with Tessar F/2.7, $6\frac{1}{2}$ lbs.

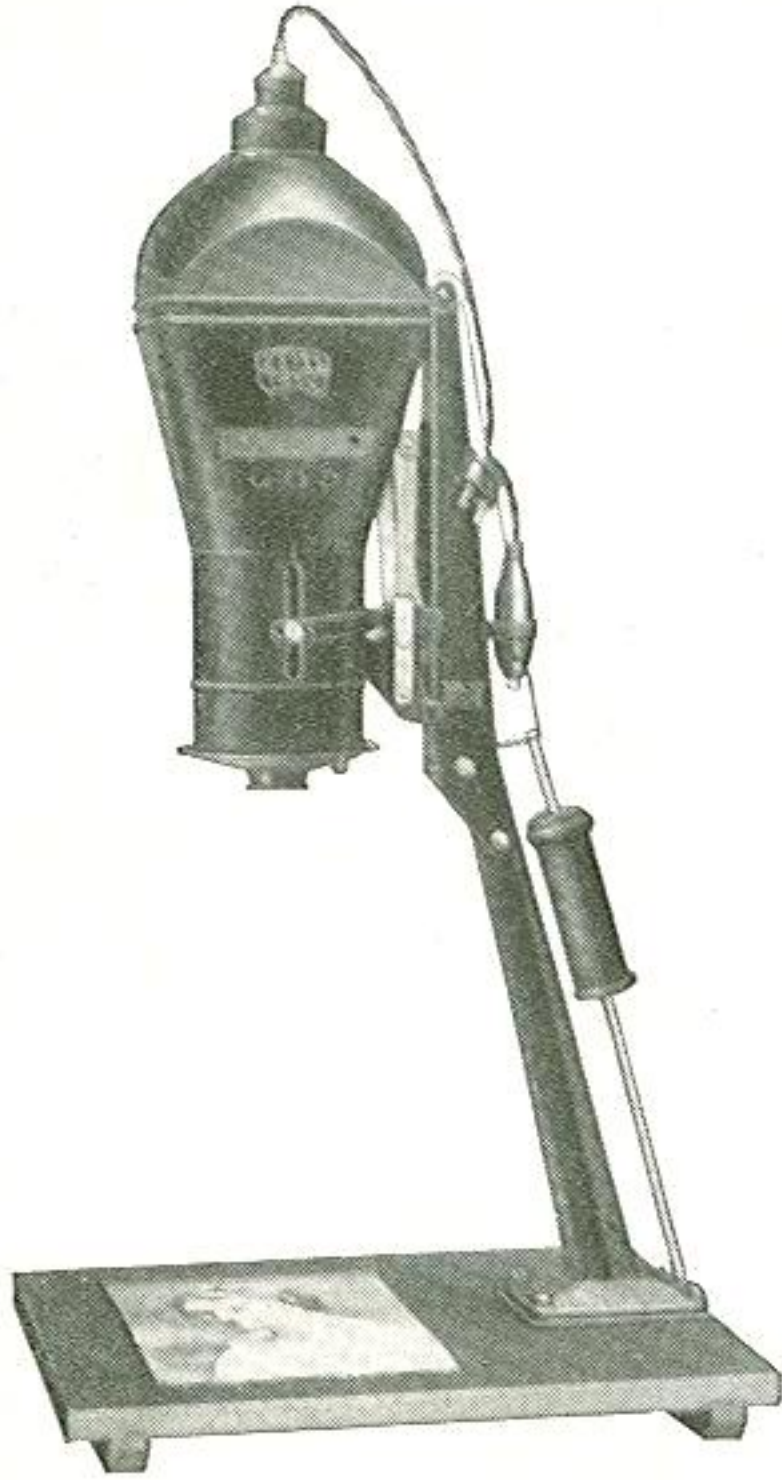
Camera Size (closed):
Model A, $2\frac{1}{2} \times 4\frac{3}{4} \times 6$ inches

Camera Size (closed):
Model B, $3 \times 5\frac{1}{2} \times 7$ inches

Shutter:
Focal Plane type with gear brake

Speeds:
 $\frac{1}{3}$ to $\frac{1}{2000}$ sec. Time and Bulb

Zeiss Ikon Cameras



MIRAPHOT

an Enlarger with automatic focus

With the Miraphot automatic enlarger, it is as simple to make enlargements as contact prints. Enlargements 1.3 to 3.5 diameters can be made, the maximum size being $11 \times 14''$. The largest negative from which enlargements can be made is 9×12 cm. ($3\frac{1}{2} \times 4\frac{3}{4}''$).

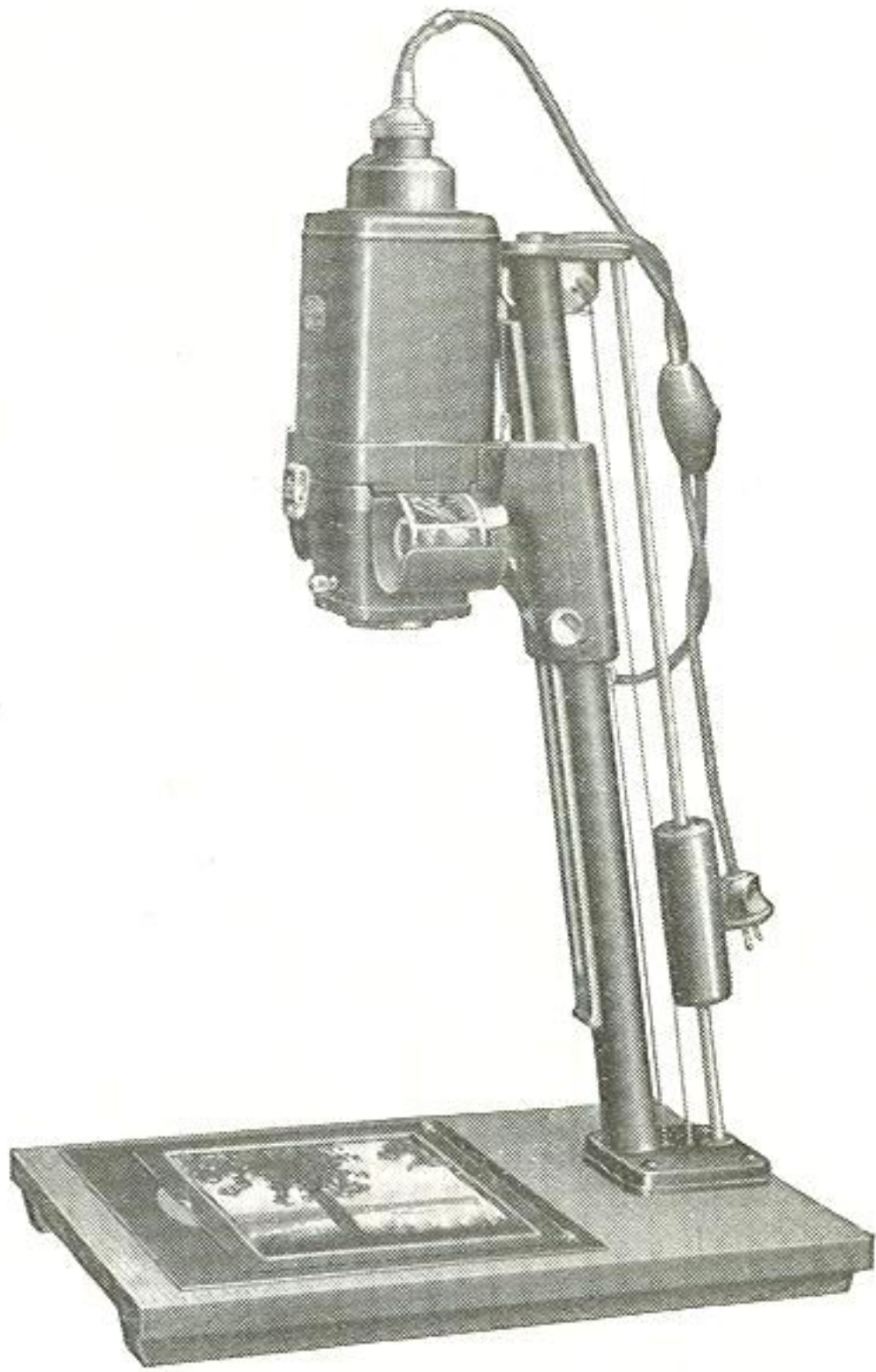
The Miraphot is always in focus, as a result of which it is only necessary to move the sliding handle up or down until the picture appears in the desired size. Turning a knob places a red glass over the lens so that the sensitized paper may remain in place, while adjusting for the required size.

You can connect the Miraphot to any light socket. The lens equipment is either the famous Carl Zeiss Tessar F/4.5 lens or the Novar F/6.3 lens.

The lamp housing consists of a specially designed parabolic reflector which produces even and brilliant illumination. Enlargements made with the Miraphot from small negatives will equal, if not surpass, prints obtained from larger negatives, thus allowing a substantial saving in the cost of films or plates. The design of the Miraphot is such that it dispenses with a condenser, and it is equipped with the efficient Para Mirror giving a very diffused light which tends to soften small defects in the negative.

The Miraphot is constructed entirely of metal, attractively finished in black and nickel. It is supplied with electric bulb, cable, socket, switch and baseboard.

Leiss Ikon Cameras



BABY-MIRAPHOT

a specially-constructed Enlarger
for use with negatives up to
 $1\frac{1}{4} \times 1\frac{5}{8}$ "

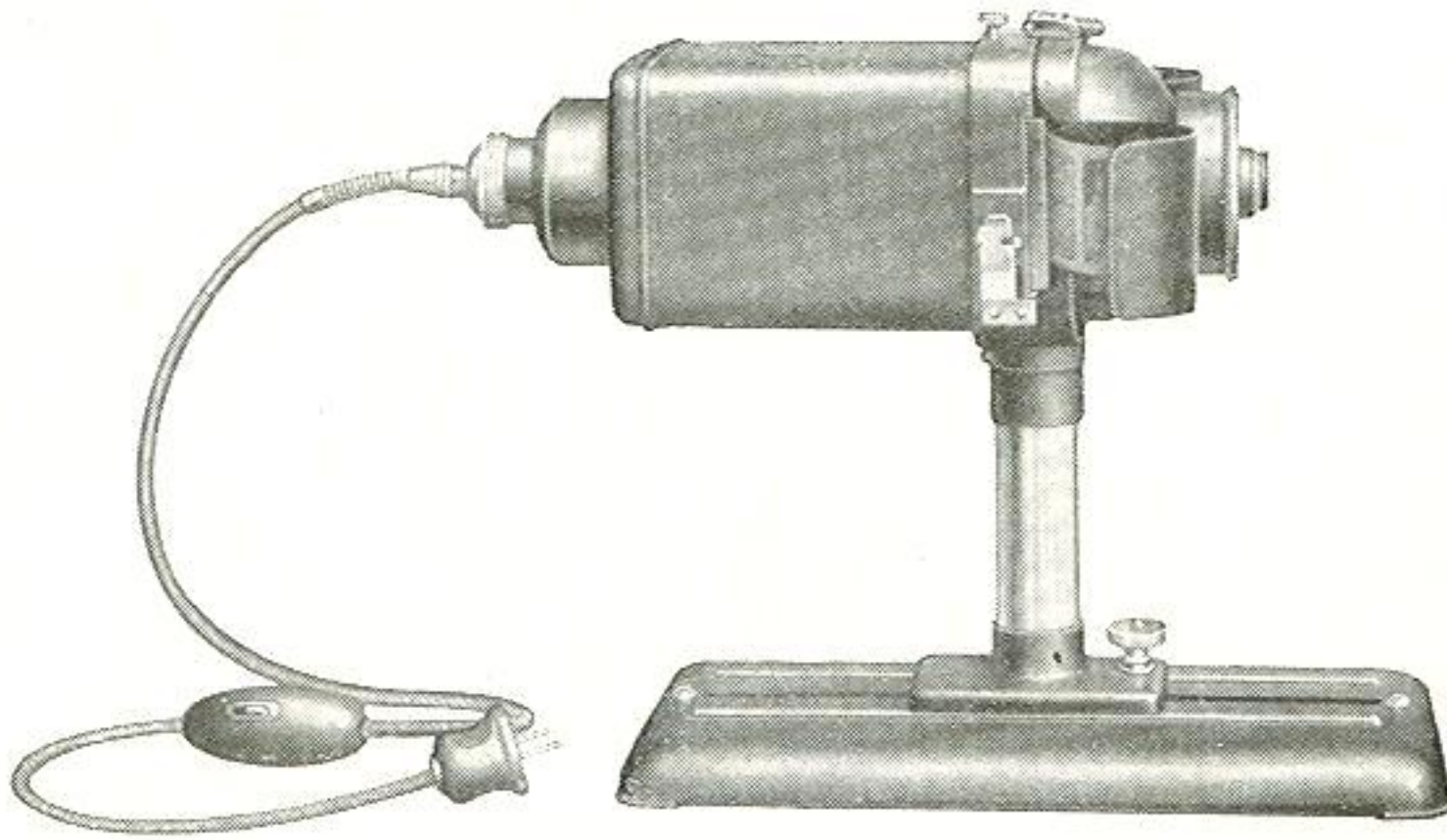
The extraordinary success of the Miraphot enlarger and the demand for a similar type of apparatus for miniature pictures has led to the design of the "Baby-Miraphot". This apparatus is equipped with automatic focusing device thus obviating all tedious manipulations. The sliding handle with which the enlarger is connected is simply moved up and down the upright, and the picture is always focused sharply over the entire 2—8 fold enlarging range of the apparatus. Nevertheless, the lens is equipped with an adjustable mount permitting small deviations from the set focus, or if special artistic soft focus effects are to be obtained.

A 60 Watt opal bulb should be used. The apparatus is equipped with a condenser which, together with the special rapid Anastigmat lens of 2" focal length, gives an even distribution of light and sharpness of definition.

The Baby-Miraphot can be used for enlarging all miniature picture films up to $1\frac{1}{4} \times 1\frac{5}{8}$ " (3×4 cm.).

The film guide ensures an absolutely flat surface of the film section to be enlarged. A special spring tension device permits rapid adjustment of the film and change from one picture to another, while at the same time all danger of scratching is eliminated. The Baby-Miraphot takes up little room and can be placed on any table.

Leiss Ikon Cameras



The MIRETTE Miniature Picture Enlarger

The apparatus is of all-metal construction. The enlarger itself is mounted on a rigid metal foot which slides in guideways on the rectangular base, a set-screw holding the enlarger in position when the desired enlarging ratio has been obtained. The optical equipment is a Novar-Anastigmat F/6.3 of 3'' focal length.

Focusing is done by moving the lens tube in or out. A worm thread mount of the lens permits fine focusing. The apparatus is equipped with a condenser which, together with a 60 Watt opal bulb ensures well-defined pictures and reduces the exposure time to a minimum.

The apparatus is specially suited for enlarging miniature pictures of $15/16 \times 1^3/8''$ and $1^1/4 \times 1^5/8''$. It enlarges up to ten times the original size. By removing the condenser and substituting an opal glass plate, it is also possible to enlarge V. P. negatives.

Due to the specially-constructed film guide, the section of film to be enlarged lies absolutely flat. A special spring tension device permits the strips of film to be drawn through the apparatus without danger of scratching.



THE HELINOX ENLARGER

an inexpensive Enlarger for miniature camera negatives up to $1\frac{1}{4} \times 1\frac{5}{8}$ "

The ever increasing popularity of Miniature Picture Photography has rendered it necessary to cater for the needs of those amateurs who, while wishing that their pictures were "just a little bigger", do not care to go to the expense of purchasing a standard enlarger such as the Miraphot. It is for this section of the photographic public that the Helinox Enlarger has been designed.

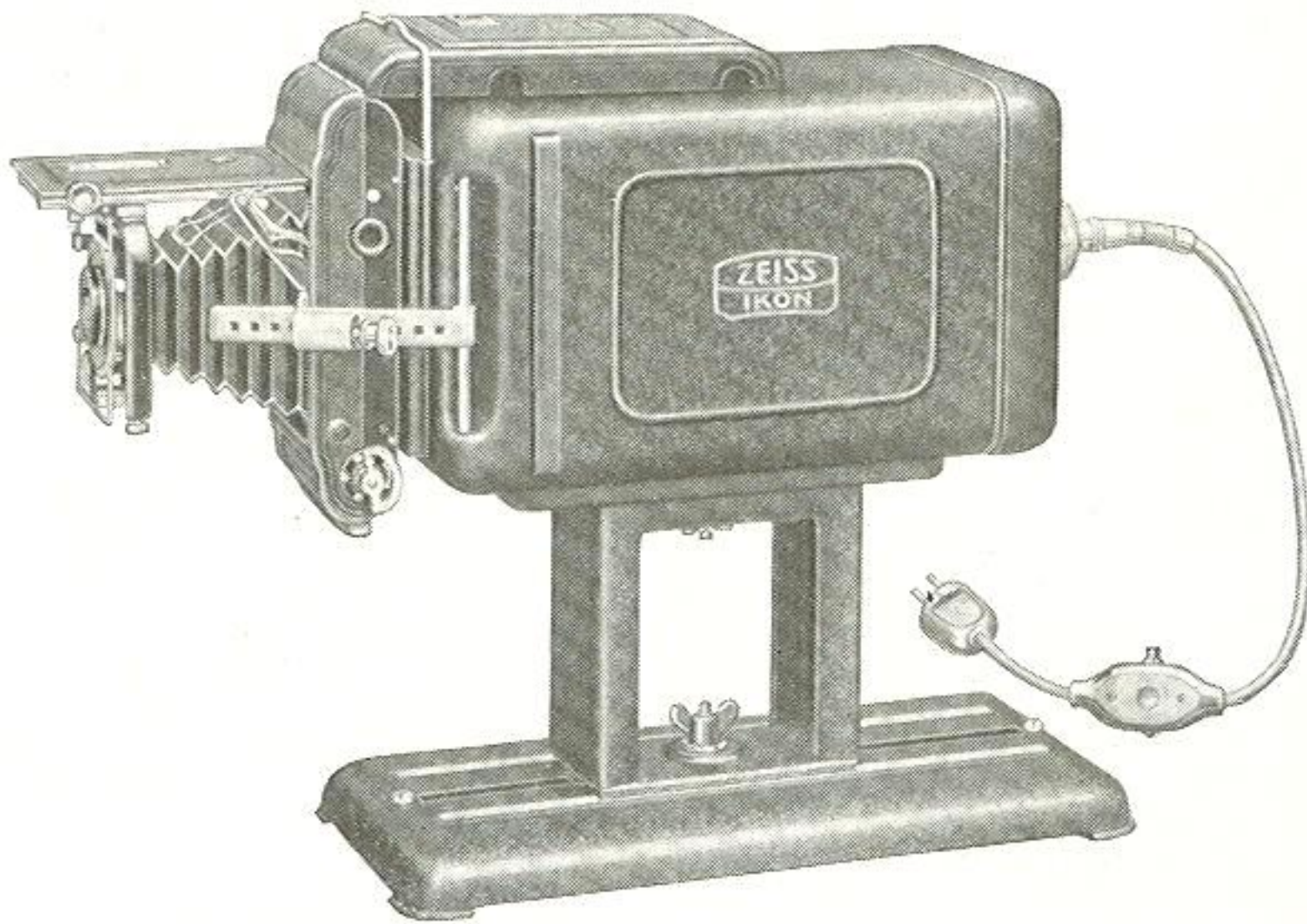
The enlarging ratio obtained with this apparatus is fixed, i. e. the miniature $1\frac{1}{4} \times 1\frac{5}{8}$ " (3×4 cm.) sized picture being enlarged to $3\frac{1}{2} \times 4\frac{3}{4}$ " (9×12 cm.). This enlarger will serve the purpose of many amateurs since by means of this apparatus a miniature picture can be readily enlarged to standard $3\frac{1}{2} \times 4\frac{3}{4}$ " (9×12 cm.) pictures.

The Helinox enlarger has an all-metal body. The optical equipment consists of a Novar-Anastigmat F/6.3, the rapidity of which enables very short exposures to be made. The apparatus is equipped with a 40 Watt bulb. The double-walled lamphouse prevents excessive heating.

A special metal paper holder inserted into the lower part of the enlarger ensures an absolutely flat surface and also gives a neat, white margin to the print. The apparatus can also be used as a daylight enlarger.

The film does not need to be cut as the entire strip passes through the enlarger. The film strip can be inserted, adjusted, and removed readily without the danger of scratching or damaging the film.

Zeiss Ikon Cameras



MIRAX universal enlarging attachment

The real pictorial beauty of a good photograph, the fascinating reproduction of detail, can seldom be fully appreciated in a small photograph. With the introduction of the Mirax, extremely low in price, the joys of enlarging are now placed within the reach of all.

The Mirax is a compact enlarging attachment which can be used with any plate or film pack cameras ranging in size from $6\frac{1}{2} \times 9$ cm. to 9×12 cm. or rollfilm cameras with sizes from $2\frac{1}{4} \times 3\frac{1}{4}$ " to $3\frac{1}{4} \times 4\frac{1}{4}$ " provided the camera backs are removable or hinged. For the $2\frac{1}{4} \times 3\frac{1}{4}$ " size, an adapter kit is supplied.

As the above illustration indicates, you use your own camera as the projection portion of this ingenious enlarging attachment. A simple clamping device enables you to attach your camera very easily to the Mirax. This clamping device insures absolute light proof connections.

The high power electric bulb, the opal plate and the reflecting properties of the silvered coating of the body interior of the Mirax, give a high intensity and even distribution of illumination. The soft diffused light makes small flaws in the negative unnoticeable so that retouching of enlargements can be reduced to a minimum.

Apart from the focusing of the camera lens, the Mirax can be moved both on its base and on its foot, thus permitting a very wide range of adjustments and enlargements.

The Mirax is well-constructed of light, sturdy metal and is supplied with an electric bulb, socket, 6 feet of flexible cord with plug and switch.

Leiss Ikon Cameras



DIAPHOT and KIDIAPHOT

These are exposure meters which determine quickly the correct exposure or diaphragm opening for any subject, in almost any light. No calculating to do . . . no complicated table to use . . . and no paper to expose. The diaphragm markings are in both U. S. and F systems; F/3.5 and smaller for still photography, and F/1.4 and smaller for movie cameras. It is about the size of a small thin watch, beautifully made, and supplied in a neat leather case.

METAL and WOODEN TRIPODS

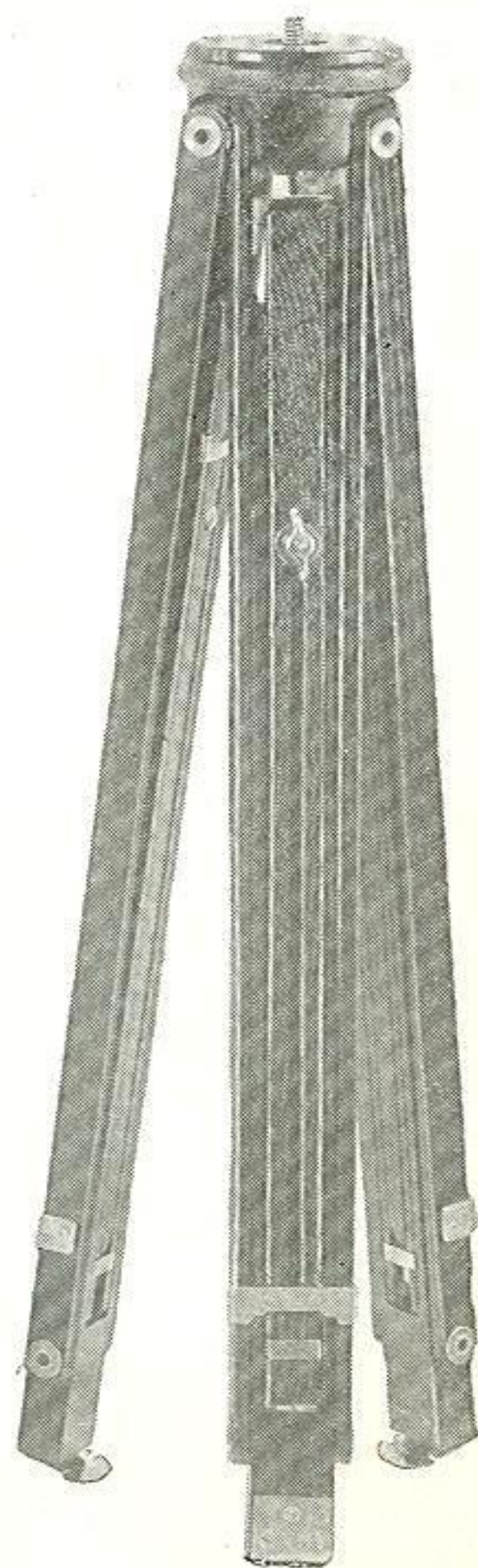
The metal tripods are constructed with the greatest precision of the best brass tubing finished in polished black lacquer. Metal tripods have a flat nickeled top which provides a firm support for cameras. When not in use this flat top folds compactly against the tripod.

The metal tripods have 5 sections which measure extended 50'' and closed 15''.

The wooden tripods are built of smooth, solid stock stained black. They have a revolving top upon which the camera rests securely. By means of this revolving top it is unnecessary to move the tripod when a change of view is desired, for the camera always remains firmly on the revolving top and a simple motion will bring the camera to focus the desired view.

The wooden tripods have 4 sections and measure extended 52'' and closed 18''.

Weight: Wooden tripods 22 ozs. Metal tripods 30 ozs.



Zeiss Ikon Cameras



KINAMO S.10

16 mm. movie camera

The Kinamo S.10 is the smallest 16 mm. movie camera made and is so compact and light that it fits into your pocket easily. This camera is constructed of a light metal alloy and covered with fine grained morocco leather. All the metal parts are nickel-plated.

The Kinamo S.10 is equipped with a Carl Zeiss Tessar F/2.7 lens which enables clearly-defined and brilliant pictures to be taken even in winter or poor weather conditions. This famous lens gives a great focal depth for all objects from 5 feet to infinity, so that no focusing is necessary and the camera is always ready for action. For close-ups, supplementary lenses may be secured.

The film magazines are furnished loaded with 33 feet of 16 mm. Eastman Kodak safety film, panchromatic or supersensitive, and are loaded in daylight. This is a very convenient length, for it enables the movie photographer to take several complete shots using all of the film, thereby getting quick developing service. After exposure, it is only necessary to send the exposed magazine to the nearest Eastman Kodak agency for servicing.

The spring mechanism eliminates hand turning of the Kinamo S.10. The camera can be held conveniently in your hand and the film speed will always be constant at 16 pictures per second.

The Kinamo S.10 is indeed the movie camera for sports lovers and home folks who have always wanted a light weight camera well adapted for universal use.

Picture size16 mm. film
LensZeiss Tessar F/2.7 of 15 mm. focal length
Camera size $2\frac{5}{16} \times 3\frac{1}{2} \times 4\frac{3}{8}$ inches. Weight 42 ozs.



CARL ZEISS PHOTO LENSES

for every photographic purpose are unsurpassed in definition and covering power.

BIOTAR F/1.4

BIOTESSAR F/2.8

TESSARS F/2.7 — 3.5 — 4.5 — 5 — 6.3

DISTAR and Proxar supplementary lenses for TESSAR.

TELE-TESSAR F/6.3

DOUBLE PROTARS F/6.3 — 7 — 7.7

PROTAR F/18 — PROTAR LENSES F/12.5.

Sets of convertible PROTARS.

TRIOTARS F/3 — 3.5 and TRIPLETS F/4.8 — 5.

APOCHROMAT TESSAR and PLANAR PROCESS LENSES and accessories.

YELLOW FILTERS of yellow Jena glass.

DUCAR COMPENSATION FILTERS for color photography.

Special lens equipment for amateur movie cameras.

Ask for Zeiss photographic lens catalog.

Pamphlet "How Zeiss lenses are made" free on request.

Zeiss Ikon Cameras

CARL ZEISS PRISM BINOCULARS

Among the more than twenty popular models of Zeiss binoculars there is one for every purpose.

As a companion on your travels, for sports, on hunting trips, the Zeiss will bring out distant scenes in remarkable detail.

For nature lovers the Zeiss binocular can easily be converted into a magnifier by adding an objective front lens.

Binocular booklet describing all models sent on request.

Smallest circle shows all that can be seen with an 8-power non-prismatic glass.

Middle circle, the field of view of the average 8-power prismatic binocular.

The entire circle, the field of view of a Zeiss 8-power wide-angle Prism Binocular

