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Directions for using
the

NETTAR C A M E R A

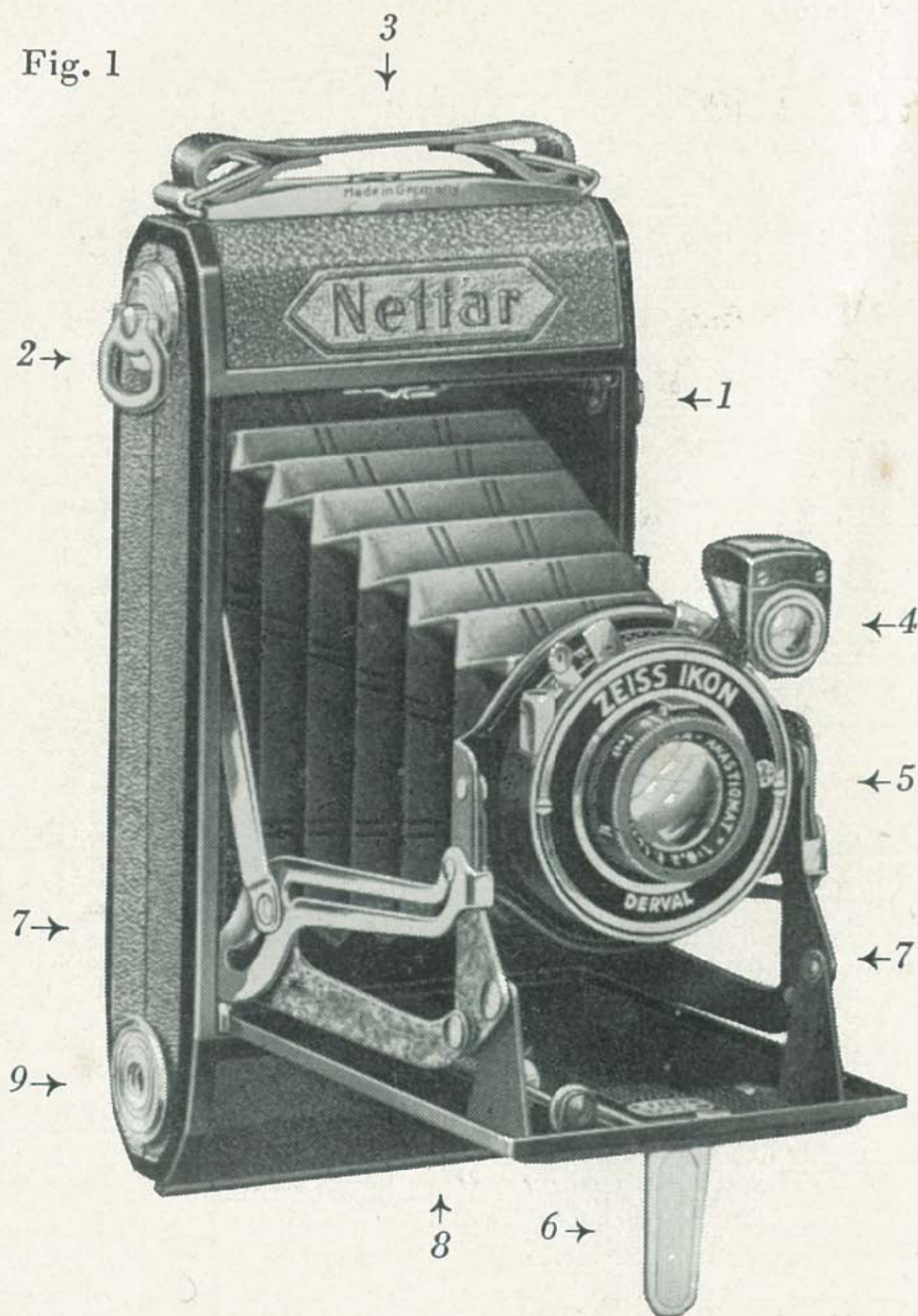
for Roll Films B II 6×9 cm
(3¹/₄×2¹/₄")

ZEISS IKON AG. DRESDEN

C 2462 d E

Nettar 6 × 9 cm with anastigmat 1:6.3

Fig. 1



- 1 = Spring button for opening the camera front
- 2 = Film winder
- 3 = Button for opening the camera back
- 4 = Reflecting view finder
- 5 = Lens and shutter
- 6 = Little foot for time exposures without tripod
- 7 = Struts fixing the baseboard
- 8 = Screw thread for the tripod for vertical exposures (not to be seen in the ill.)
- 9 = Screw thread for the tripod for horizontal exposures

General Description

The Nettar Camera is a roll film camera which is truly self erecting, the front springing into working position on slight pressure being applied to the button on the side of the camera. The camera can thus be opened with one hand. The usual operations of opening the baseboard and pulling out the lens front into the infinity position are obviated. When near objects are to be taken the camera is focused for the appropriate distance by the rotation of the front lens cell. The film is held flat in the focal plane by a spring pressure plate.

A special advantage of the Nettar is the way in which the flexible release is adjusted when not in use: there is a catch on the inner side of the baseboard to hold the flexible, so that it is impossible to lose or forget it.

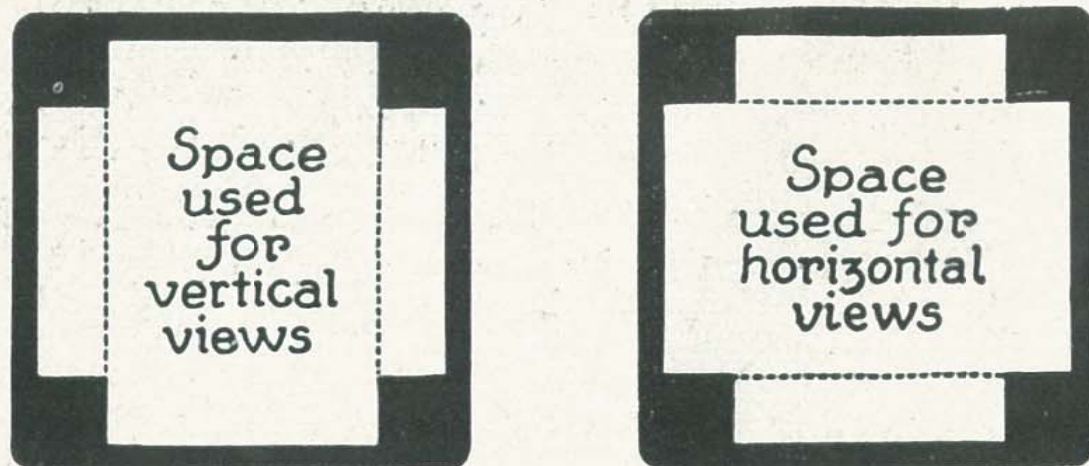
The film window in the camera back is sufficiently protected so that it may be used also for panchromatic films.

|| Before loading the camera for the first time
|| all the manipulations should be practised.

How to open the Camera

Hold the camera in the hand with the top slightly tilted forward and press open the spring button (1) (Fig. 1) directly under the film winding key.

This releases the locked base-board, the lens (5) springs forward automatically, and the struts (7) on both sides of the bellows snap firmly into position.



The brilliant view finder

The View Finders

The cameras are equipped with a brilliant view finder (4). It shows in reduced size nearly the same image as formed by the lens on the film. The objects which the picture is intended to include should be seen in the finder.

When the camera is opened, the view finder is ordinarily set for upright (vertical) pictures. When oblong (horizontal) pictures are to be taken, the view finder should be rotated to the limit of motion.

The composition of the picture is rendered much easier by the use of a finder magnifier. The magnifier attachment enlarges the small finder image about 5 times.

In addition to the reflecting finder, the Nettar cameras are provided with a **metal frame finder (11)** (Fig. 2) with **sight (12)** lying flat against the side of the camera body when not in use.

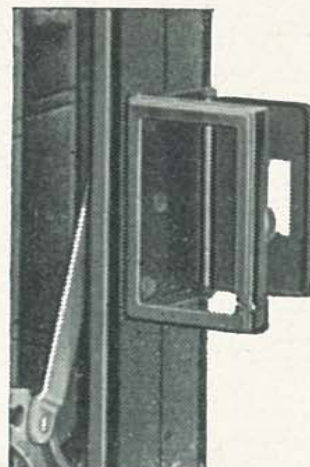


Fig. 2 ↑ 11 ↑ 12

11 = Frame view
finder

12 = Sight for same

To look through this finder, approach the eye quite close to the sighter and view through the centre of the wire frame, which will then show the same image as produced by the lens.

Closing the Camera

Return the brilliant view finder back to its normal position for upright pictures. Hold the camera in both hands, as shown in Fig. 3, and depress the two side struts (7) as shown in the illustration, whereby the locking is released and the base-board can be easily closed. The lens front and the bellows fold up automatically.

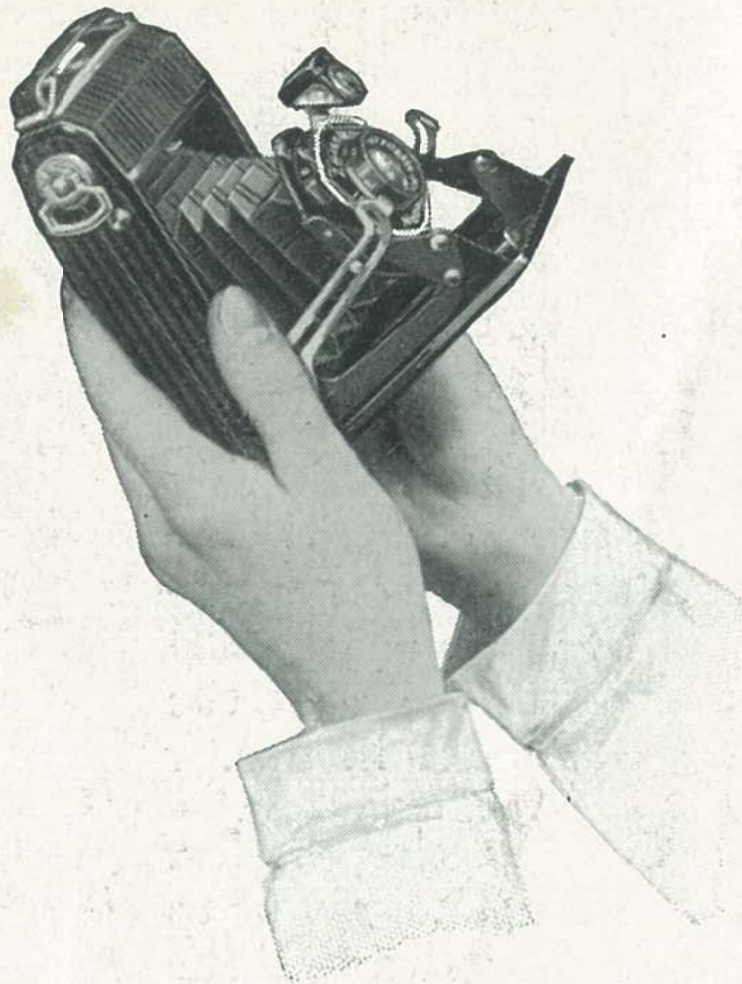


Fig. 3

Showing the manner of closing up the camera

How to hold the Camera while taking the Picture

The camera is specially designed as a hand camera and will doubtless be used principally for taking snapshots from the hand. When doing so, the camera should be held firmly in the left hand and pressed against the body so as to steady it as



Fig. 4 How to hold the camera for a vertical exposure,
when using the brilliant view finder

much as possible. The shutter should then be operated with the right hand (see Fig. 4).

When taking photos at eye level look through the sighter 12 and the frame 11. All objects visible in the finder will be reproduced on the negative.

Care should be taken, that during the exposure the horizontal and vertical lines of the object are parallel to the corresponding lines of the finder frame as otherwise the picture will be distorted.

Photographs requiring a longer exposure than $\frac{1}{25}$ second should be taken with the camera fixed to a tripod. For this purpose the camera has screw threads for vertical and horizontal pictures (8 and 9). The screw thread for vertical exposures is in the bottom board the other one on the side of the camera body.

When it is desired to photograph without a tripod, the camera may be set up on a table or firm base, the hinged support (6) being then erected so as to serve as a rest.

Films

Use the rollfilm B II 8 giving 8 exposures $3\frac{1}{4} \times 2\frac{1}{4}$ ". We can highly recommend the rapid Zeiss Ikon Film "Orthochrom" or "Panchrom" with which it is possible to obtain very satisfactory snapshots even on a dull day.

How to put in the Film

The film spools can be put in the camera in daylight and similarly removed in daylight after exposure. The film may thus be changed without the need of a dark room, which renders the camera particularly convenient for tourists. It is, however, advisable not to change spools in direct sunlight and to interpose at least one's own shadow.

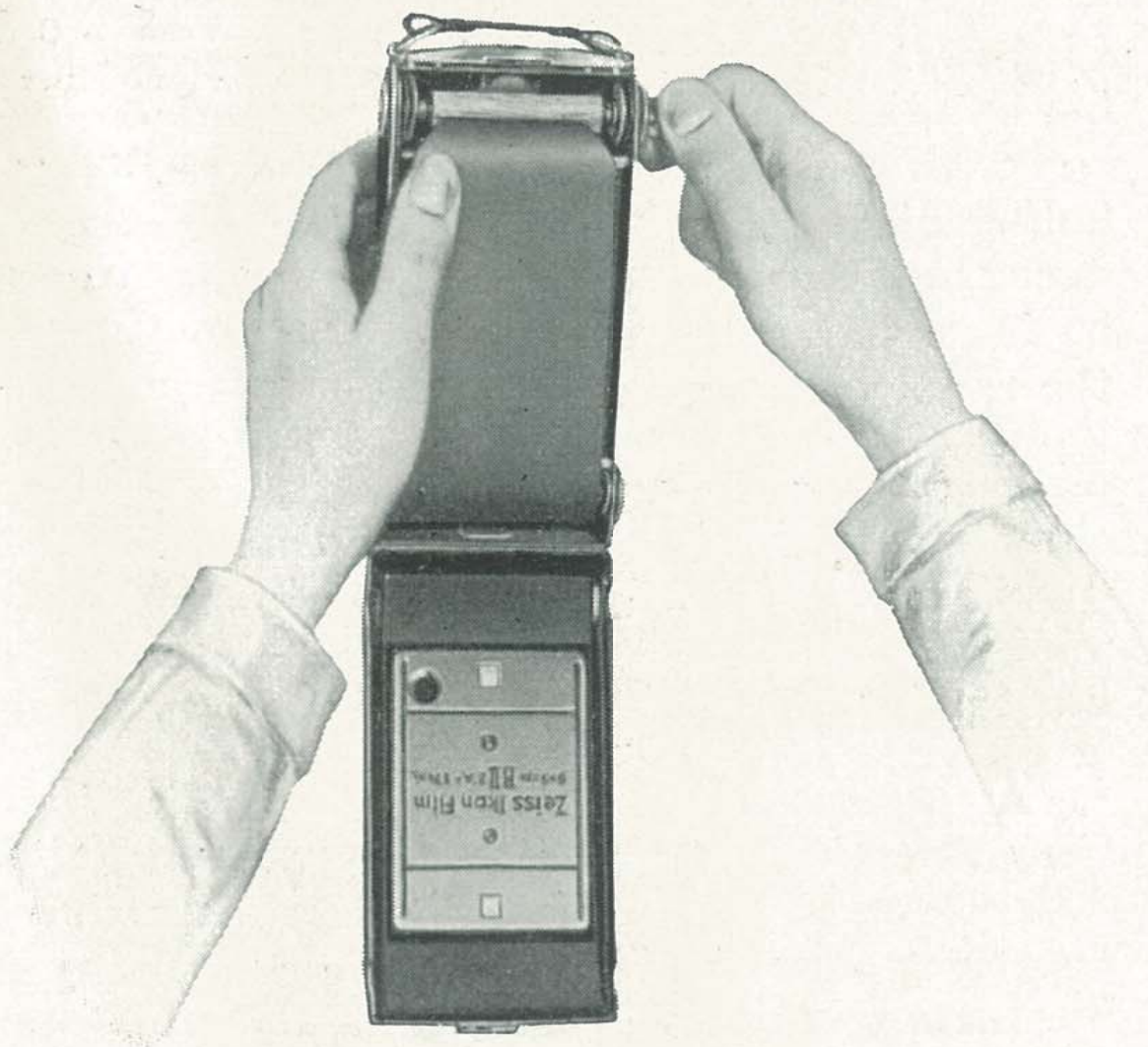


Fig. 5 Showing the method of starting the film on the empty spool

Push the button (3) (Fig. 1) under the carrying handle in the direction of the arrow. The back, which is hinged to the camera body, is then unlocked and can be turned down.


A newly supplied camera contains in the spool chamber near the film winder (2) an empty film spool for the reception of the exposed film. The core of the film spool is hollow at both ends and,

when inserting subsequent films, is easy to engage with the spool pins of the camera.

Insert the empty spool in the upper spool chamber by drawing out the spring stud and pressing the end with the round hole against the resilient spool holder disk, the other end with the slit $=\bigcirc=$ being near the film winder (2). Turn the film winder till its inner part enters the slit of the spool and causes the spool to turn too.

Insert the unexposed spool into the opposite chamber, beginning with the end near the resilient spool holder disk to which pressure must be applied. The tapered end of the protecting paper must point in the direction of the empty spool (\uparrow).

After severing the white gummed slip draw the protecting paper over the two nickel guide rollers and thread it into the longest slit of the empty spool (Fig. 5). Bind the protecting paper by turning the film winding key about four half turns. When so doing see that the protecting paper winds on straight and that it does not foul the ends of the spool. Any tendency of the film to run crookedly should be corrected at once.

Close the back and turn the winding key until a warning hand  becomes visible in the red window in the back of the camera. Shortly afterwards the No. 1 will appear. The film is now in place for the first picture.

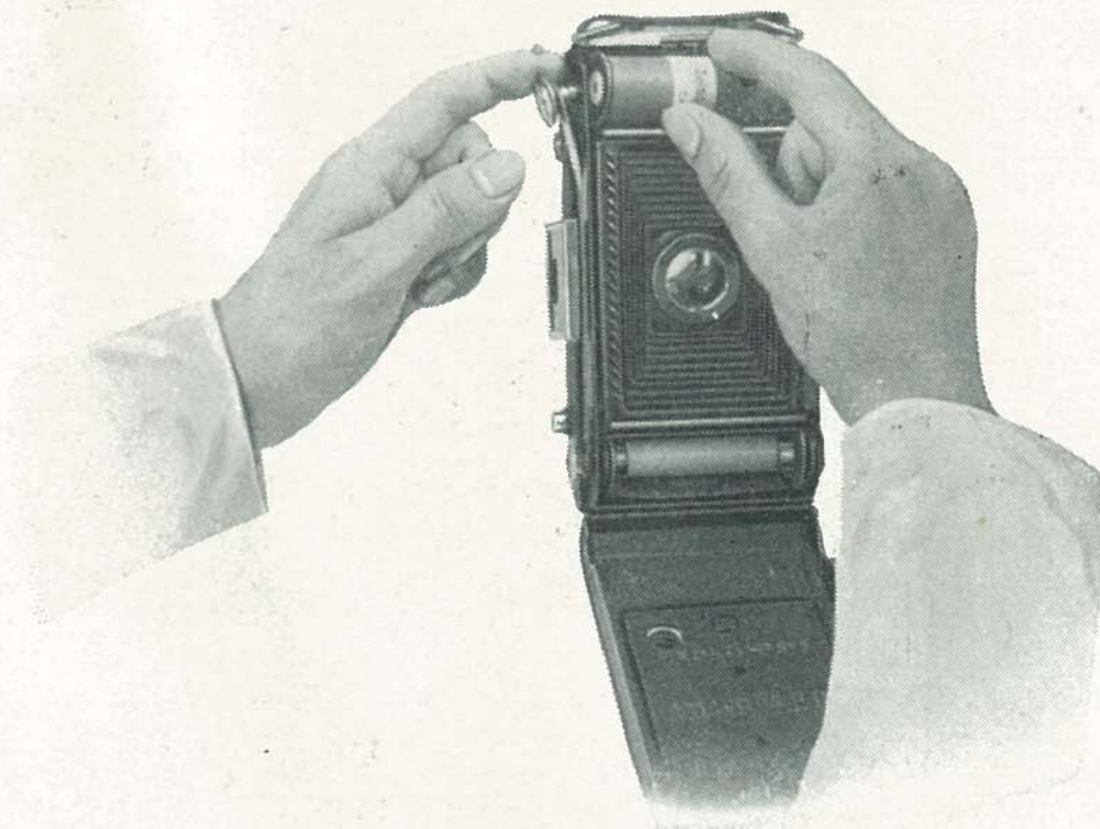


Fig. 6

Showing the method of removing the spool

How to unload the Camera

When the last film section has been exposed, turn the film key until the paper back is no longer visible in the red window. Now seal the film with the adhesive strip provided for the purpose and take out the spool by drawing out the spring stud of the spool chamber (Fig. 6).

The shutters

The following facts refer to cameras whose release trigger is operated on the shutter itself, at the front.

Directions for the release on the camera body are given page 19 and 20.

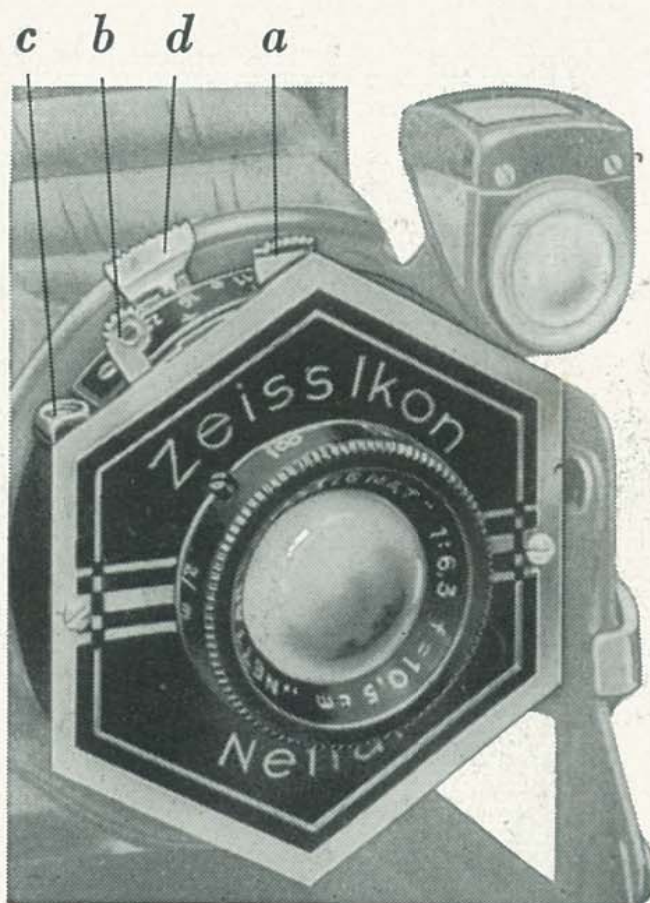


Fig. 7 Nettar shutter

Nettar and Derval shutter

The shutter allows speeds of $\frac{1}{25}$, $\frac{1}{50}$ and $\frac{1}{100}^{\text{th}}$ of a second and long or short time exposures.

The lever and graduated scales for setting the shutter speeds and the diaphragm are located on the upper part of the shutter and can therefore be easily operated when the camera is in position for exposure.

T Long time exposures

Set the lever (a) to the letter T. A pressure on lever (b) or on the wire release which is screwed into the bush (c) opens the shutter, which is closed by a second pressure.



Fig. 8 Derval shutter

B Short time exposures

Set the lever (a) to the letter B. Open the shutter by pressure on lever (b) and, immediately this pressure ceases the shutter will close.

Instantaneous exposures

Set the lever (a) to 25, 50 or 100. A pressure on the lever (b) or on the flexible release will give an exposure of $\frac{1}{25}$, $\frac{1}{50}$ or $\frac{1}{100}$ th of a second as desired.

Telma shutter

The Telma shutter allows speeds of $\frac{1}{25}$, $\frac{1}{50}$, $\frac{1}{100}$ and $\frac{1}{125}$ th of a second with or without delayed action release and for long or short time exposures.

The lever and graduated scales for setting the shutter speeds and the diaphragm are located on

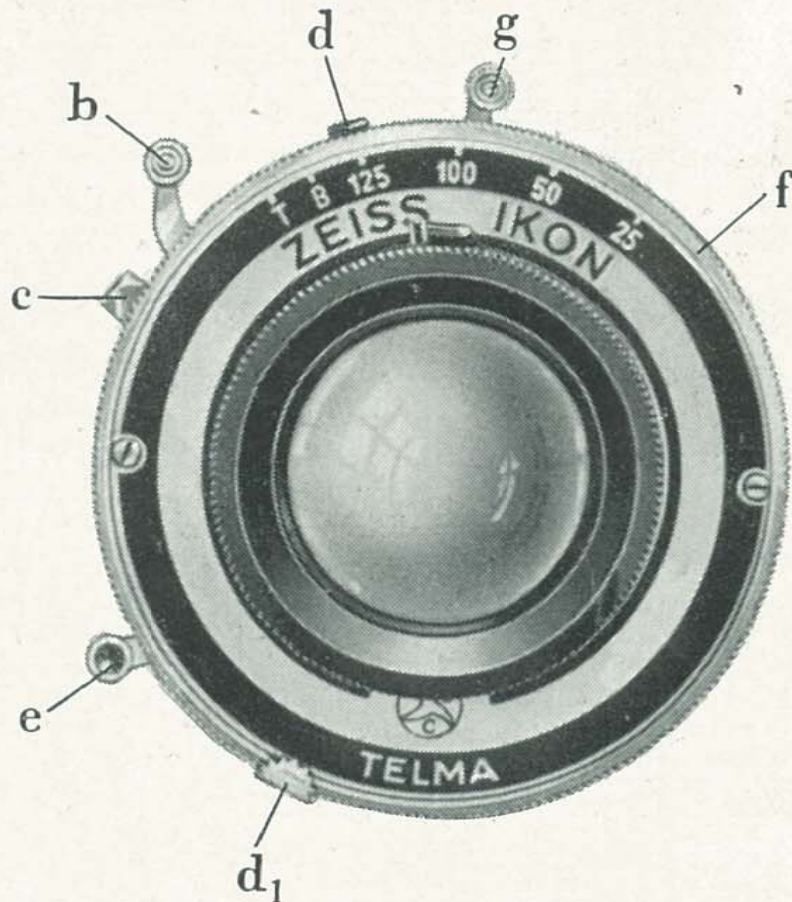


Fig. 9 Telma shutter

the upper part of the shutter and can therefore be easily operated when the camera is in position for exposure.

Instantaneous exposures without delayed action release

With this shutter the exposure times are set by a ring (*f*), which must be rotated in such a manner that its index points to one of the numbers 25, 50, 100 or 125. After setting the shutter by pressure

on the lever (*g*), make the exposure by pressure on the lever (*b*) or on the flexible release which is screwed into the bush (*c*).

Instantaneous exposures with delayed action release

The manipulation is the same as described above. In addition to this, the clockwork must be set by means of the lever (*e*). A pressure on lever (*b*) or on the flexible release will then release the shutter after the clockwork has first run down, i. e. after about 12 seconds.

Long time exposures

Place the index of the ring (*f*) to the letter T and set the shutter by pressure on the lever (*g*). A pressure on lever (*b*) or the flexible release opens the shutter and a second pressure closes it.

Short time exposures

Place the index of the ring (*f*) to the letter B and set the shutter by pressure on the lever (*g*). Open the shutter by pressure on lever (*b*), immediately this pressure ceases, the shutter will close.

The Iris diaphragm

The diaphragm is set by the lever d_1 and is indicated on the scale by the pointer *d*.

Klio shutter

With the Klio shutter it is possible to take instantaneous exposures from 1 to $1/150$ (with lens 1:4.5) and to $1/175$ (with lens 1:6.3) sec., with and without delayed action release, and long or short time exposures.

The scales and levers for setting the shutter speeds and diaphragm stops are conveniently located on the upper part of the shutter, so that the settings can be easily operated when the camera is in position for exposure.

Instantaneous exposures

Turn the ring (*f*) until the red index points to one of the figures 1, 2, 5, 10, 25, 50, 100 or 150 (175),

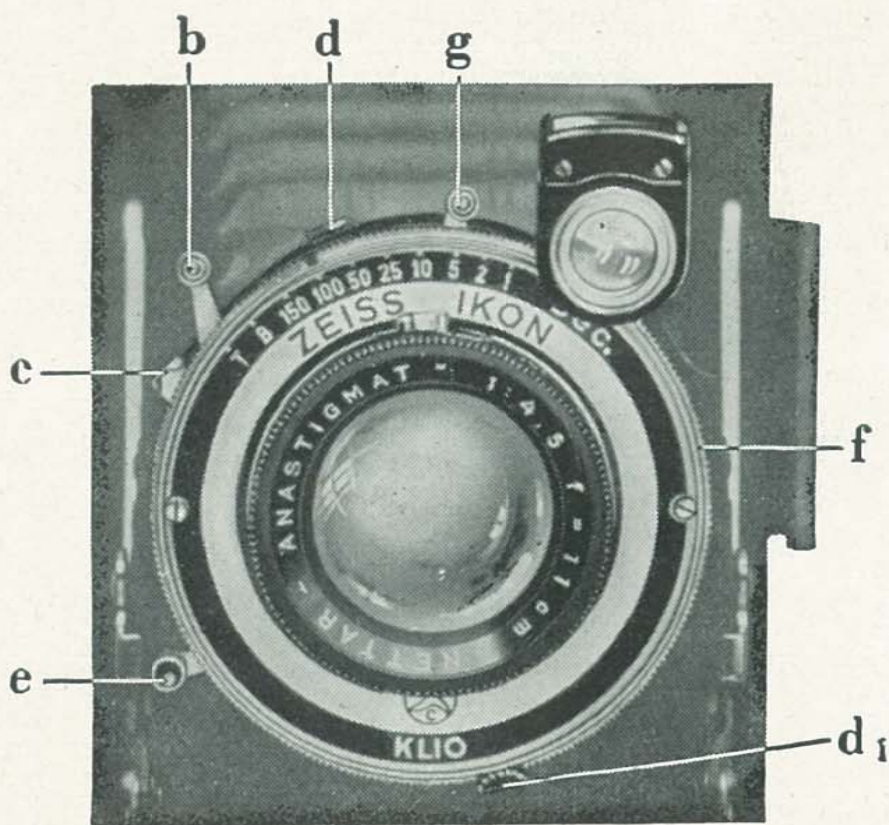


Fig. 10 Klio shutter

which represent fractions of a second. After setting the shutter by pressing down the lever (*g*), open it by pressure on lever (*b*) or on the wire release which is screwed into the bush (*c*).

Instantaneous exposures with delayed action release

The manipulation is the same as described above, and in addition the delayed action release is set

by means of the lever (*e*). A pressure on the lever (*b*) or on the flexible release sets the clock-work of the delayed action release in motion and after about 12 seconds the shutter is discharged in the usual way.

Long time exposures

Set the index of the ring (*f*) to the letter T. A pressure on the lever (*b*) or on the flexible release opens the shutter, which will remain open until a second pressure closes it.

Short time exposures

Set the index of the ring (*f*) to the letter B and open the shutter by a pressure on the lever (*b*) or on the flexible release; immediately this pressure ceases, the shutter will close.

The diaphragm

The diaphragm is set by means of lever (*d*₁). The indicator (*d*) shows the respective stops on the scale.

Compur and Compur Rapid Shutter with and without delayed action release.

When delayed

action release is not in use proceed as follows:

T Long Time exposures

Turn ring (*g*) till letter T is on the index mark (*a*). Pressure on lever (*b*) or on the flexible release inserted at (*c*) opens the shutter, which will remain open till a second pressure closes it.

B Short Time exposures

Turn ring (*g*) till letter B is on the index mark (*a*). Pressure on the release opens the shutter, which will close as soon as this pressure ceases.

Instantaneous exposures

Turn ring (g) till the speed chosen is on index mark (a). Set the shutter by moving lever (e) to the right to the limit of motion. — Release the shutter by a pressure on the lever (b) or on the

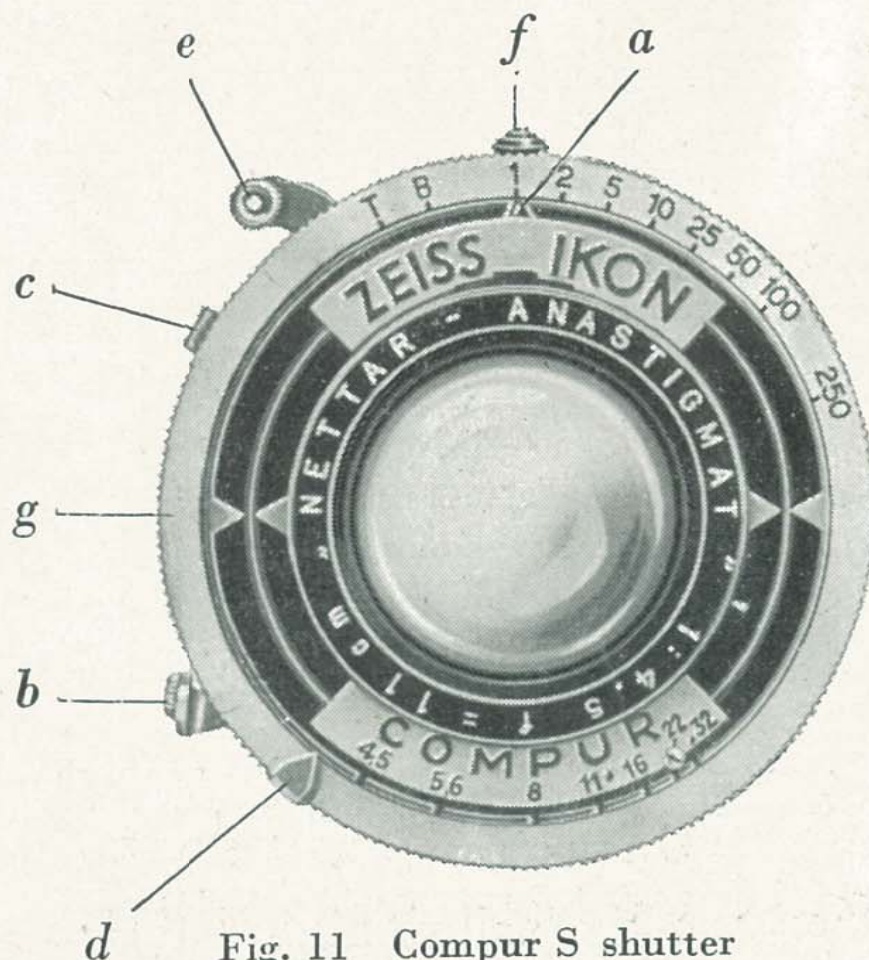


Fig. 11 Compur S shutter

- a = Index showing the exposure times
- b = Finger release for the shutter
- c = Bush in which to screw the flexible release
- d = Diaphragm indicator
- e = Setting lever for automatic speeds, and for exposures with the delayed action release
- f = Setting button for the delayed action release
- g = Rotating ring for regulating the speeds which read off against index a

flexible release. — Lever (e) is used only for instantaneous exposures of 1, $\frac{1}{2}$, $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{25}$, $\frac{1}{50}$, $\frac{1}{100}$ and $\frac{1}{250}$ ($\frac{1}{400}$ with Compur Rapid) of a second. When the shutter is set for T or B, this lever is locked.

The Iris diaphragm

Set the diaphragm scale indicator (*d*) to the number representing the aperture of the iris it is desired to use.

When using the delayed action release proceed as follows:

Instantaneous Work with the delayed action release for speeds from 1 up to $\frac{1}{100}^{\text{th}}$ (up to $\frac{1}{200}^{\text{th}}$ with the Compur Rapid) of a second.

Set shutter as previously described by means of lever (*e*). Then push button (*f*) aside in the direction of the arrow and move lever (*e*) a little farther on, till it is arrested a second time.

A pressure on lever (*b*) will set the clock work of the delayed action release in motion and after about 12 seconds the release will discharge the shutter at the set speed indicated on dial (*g*).



Fig. 12

The camera casing release

The fitting of the shutter release knob on the camera body allows the camera to rest firmly in

both hands when exposing, while one finger of the left hand fires the shutter.

If this release knob is inadvertently pressed as the camera is opened, it may happen that the release lever becomes detached and will not then fire the shutter. In this event, simply close the camera momentarily to bring the release lever into the correct position.



Fig. 13

NOTE:

The delayed action release is not available for use with time exposures nor for speeds higher than $\frac{1}{100}$ ($\frac{1}{200}$) of a second. When setting the shutter it is advisable to exert a counter-pressure on the shutter bearer in order to avoid excessive wear of the mechanism and of the metal parts of the camera front.

The stops

The diaphragm is set by the indicator (*d*). The shifting of this pointer varies the size of the lens aperture, which diminishes with the increase in the

number of the stop. The use of the smaller stops has the great practical advantage that it provides a means of increasing the general sharpness of the picture.

The stopping down of the lens aperture naturally has the effect of diminishing the light transmitted by the lens; therefore each succeeding stop requires approximately twice the exposure of the preceding one.

The exact time of exposure corresponding to a certain stop is best taken from the exposure table supplied with the camera, or it may be determined by the aid of the Zeiss Ikon Diaphot, which we can recommend as a thoroughly reliable exposure meter.

The Distance Scale

is engraved upon the lens cell. By the rotation of this cell the lens can be set to distances from ∞ (infinity) to 6 or 5 feet resp. Settings to intermediate distances as those marked on the scale, can be easily estimated.

To the more advanced amateur it is a matter of some interest to know what depth of definition he may reckon with at the various sizes of stop and at different distances. For this reason a depth of focus table (page 24) is appended. This table indicates to what distance and stop the camera requires to be set in order to photograph objects requiring considerable depth of focus, such as landscapes with foreground, large groups comprising persons in front 12 feet away, others some 33 feet from the camera, and so forth. In the latter case the table shows that with stop 11 and

with the focussing scale set to a distance of 18 feet, the depth of focus extends from 11'5" to 42'4", from which it will be seen that a group requiring a depth of 12—33 feet will appear sufficiently sharp in the picture.

Taking the Photograph

The camera requires to be focused according to the distance of the object which is to be taken.

With stop 6.3 or 8 snapshots on a sunny day at a speed of $\frac{1}{100}$ and with stop 3.5 or 4.5 at a speed of $\frac{1}{250}$ second are possible. In dull light slower speeds should be used and very fast moving objects should not be photographed or only when they are not too near.

On a bright day the diaphragm may be reduced to $f/11$ and the distance scale set to 48' for sake of obtaining an equally sharp picture of objects from the farthest distance to a foreground as near as 19 feet.

Portraits and near exposures at 6 to 7 feet should be made only at full aperture of diaphragm.

Important:

To push the readiness of the Nettar for immediate use to the utmost it is advisable to adjust it once for ever in the following way:

Diaphragm about $f/12.5$; Distance about 33 feet, which adjustments are marked by red dots — and Shutter $\frac{1}{25}$ sec.

Under these conditions all objects from infinity to a distance of about 13 feet from the camera will give sharp pictures, and, using Zeiss Ikon Film "Orthochrom" or "Panchrom" the exposure

time is sufficient even for taking views on clear winter days between three hours before and after noon.

Using supplementary lenses

When taking photographs at short distances the camera lens must be combined with a supplementary lens.

The lens $f/6.3$ with a supplementary lens No. 995/8 for distances between $6'6\frac{3}{4}''$ and $2'10''$.

The lens $f/4.5$ with a supplementary lens No. 995/24 for distances between $4'11''$ and $2'6''$ or a supplementary lens No. 995/25 for distances between $2'5\frac{1}{2}''$ and $1'7\frac{3}{4}''$.

The lens $f/3.5$ with a supplementary lens No. 995/48 for distances between $4'11''$ and $2'6''$ or a supplementary lens No. 995/49 for distances between $2'5\frac{1}{2}''$ and $1'7\frac{3}{4}''$.

The following table is given for obtaining sharp definition when using the mentioned supplementary lenses.

Distance of Focussing Scale	Distance of object when using supplementary lens		
	No. 995/8	No. 995/24 and No. 995/48	No. 995/25 and No. 995/49
Inf.	$6'6\frac{3}{4}''$	$4'11''$	$2'5\frac{1}{2}''$
48'	$5'9\frac{1}{4}''$	$4'5\frac{1}{2}''$	$2'4''$
24'	$5'1\frac{3}{4}''$	$4'3\frac{3}{4}''$	$2'2\frac{3}{4}''$
18'	$4'10''$	$3'10''$	$2'2''$
15'	$4'6\frac{3}{4}''$	$3'8\frac{1}{2}''$	$2'1\frac{1}{4}''$
12'	$4'2\frac{3}{4}''$	$3'5\frac{3}{4}''$	$2'1\frac{1}{2}''$
9'	$3'9\frac{1}{4}''$	$3'2\frac{1}{4}''$	$1'11\frac{1}{4}''$
6'	$3'1\frac{3}{4}''$	$2'8\frac{1}{4}''$	$1'9''$
5'	$2'10''$	$2'6''$	$1'7\frac{3}{4}''$

Depth of focus table for Nettar Cameras $3\frac{1}{4} \times 2\frac{1}{4}$

Diaphragm	Distance of Focussing Scale			
	inf.	48'	24'	18'
f/3.5	98'-'' — inf.	32'-4'' — 94'	19'-4'' — 31'-9''	15'-3'' — 22'-''
f/4	86'-'' — inf.	30'-10'' — 109'	18'-9'' — 33'-4''	14'-11'' — 22'-9''
f/4.5	77'-'' — inf.	29'-6'' — 129'	18'-3'' — 35'-''	14'-7'' — 23'-7''
f/5.6	61'-7'' — inf.	26'-11'' — 220'	17'-4'' — 39'-4''	13'-11'' — 25'-6''
f/6.3	54'-9'' — inf.	25'-7'' — 393'	16'-8'' — 42'-8''	13'-7'' — 26'-10''
f/8	43'-'' — inf.	22'-8'' — inf.	15'-5'' — 54'-4''	12'-8'' — 31'-''
f/11	31'-4'' — inf.	19'-'' — inf.	13'-7'' — 102'	11'-5'' — 42'-4''
f/16	21'-6'' — inf.	14'-10'' — inf.	11'-4'' — inf.	9'-10'' — 110'
f/22	15'-8'' — inf.	11'-9'' — inf.	9'-5'' — inf.	8'-4'' — inf.
f/32	10'-9'' — inf.	8'-9'' — inf.	7'-5'' — inf.	6'-9'' — inf.

Diaphragm	Distance of Focussing Scale			
	15'	12'	9'	5'
f/3.5	13'-'' — 17'-8''	10'-8'' — 13'-8''	8'-3'' — 9'-11''	4'-9'' — 5'-3''
f/4	12'-9'' — 18'-2''	10'-6'' — 13'-11''	8'-2'' — 10'-1''	4'-9'' — 5'-3''
f/4.5	12'-6'' — 18'-8''	10'-4'' — 14'-3''	8'-1'' — 10'-3''	4'-8'' — 5'-4''
f/5.6	12'-1'' — 19'-10''	10'-'' — 14'-11''	7'-10'' — 10'-7''	4'-7'' — 5'-5''
f/6.3	11'-9'' — 20'-8''	9'-10'' — 15'-5''	7'-9'' — 10'-9''	4'-7'' — 5'-6''
f/8	11'-1'' — 23'-''	9'-5'' — 16'-8''	7'-5'' — 11'-5''	4'-6'' — 5'-8''
f/11	10'-2'' — 28'-10''	8'-8'' — 19'-6''	7'-'' — 12'-8''	4'-4'' — 5'-11''
f/16	8'-10'' — 49'-5''	7'-8'' — 27'-2''	6'-4'' — 15'-7''	4'-'' — 6'-6''
f/22	7'-8'' — 358'	6'-9'' — 51'-6''	5'-8'' — 21'-4''	3'-9'' — 7'-4''
f/32	6'-3'' — inf.	5'-8'' — inf.	4'-11'' — 55'-11''	3'-5'' — 9'-3''