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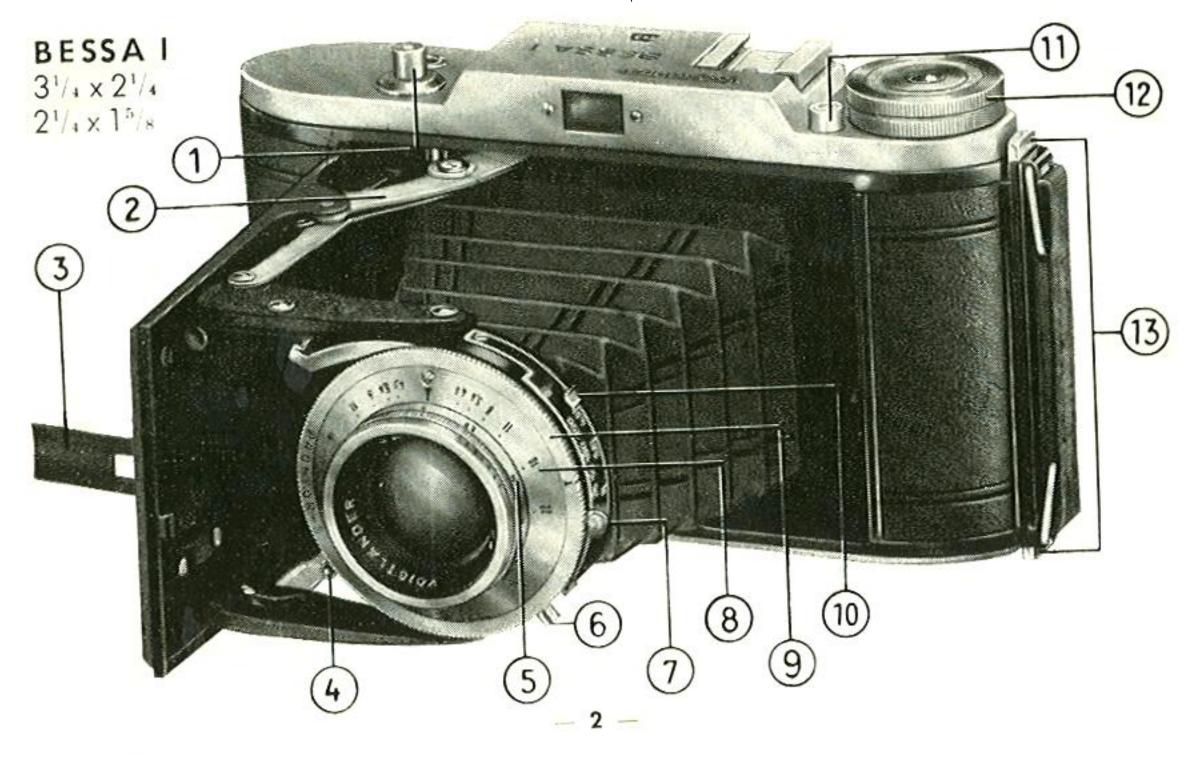
## The most important point

of the Instruction Book will be found on this page, it is to ask you to read the instructions carefully, to make yourself conversant with the manipulation before starting to take photographs or investigating the mechanism.

Do not overlook the fact that the BESSA I is a fine mechanical precision instrument. It should be handled with a gentle touch and understanding. It will re-pay you the good treatment by giving you an endless series of wonderfully sharp pictures.

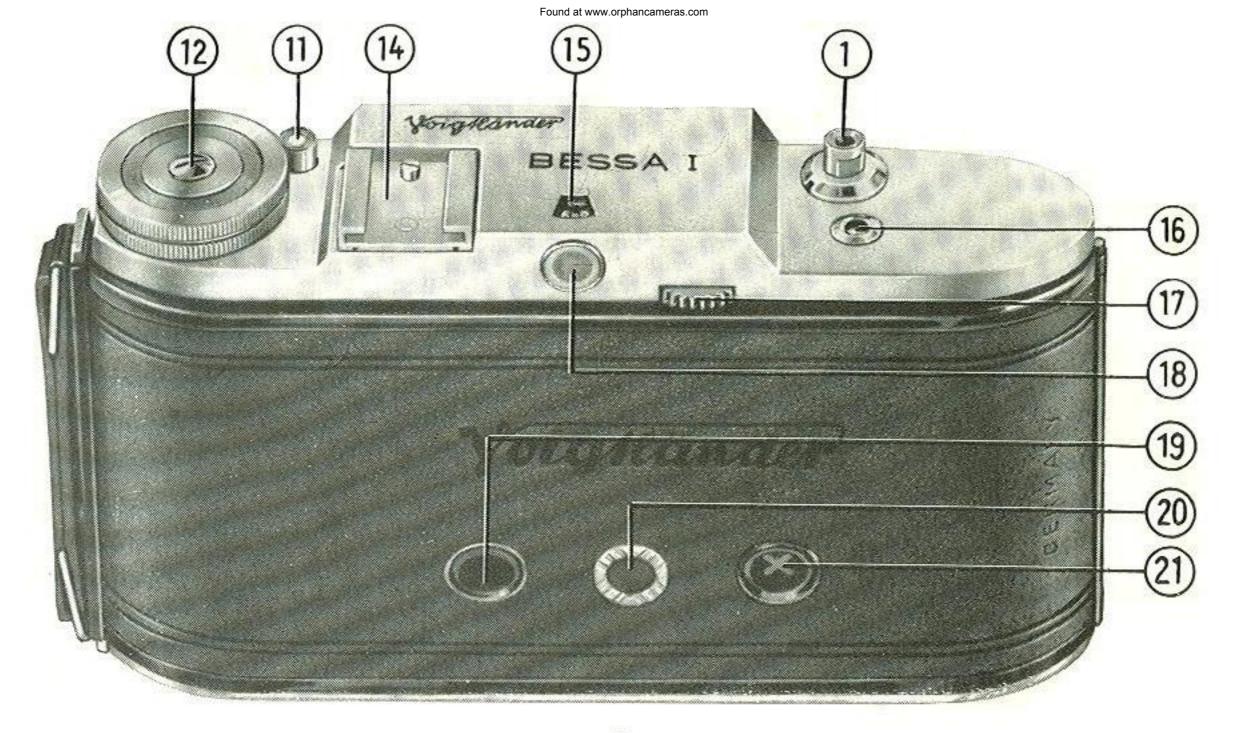


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- I Release
- 2 Strut
- 3 Baseboard Leg open
- 4 Delayed Action Lever
- 5 Focusing Scale on lens mount
- 6 Flash contact pin for connection to flash units
- 7 Tensioning Lever to tension the shutter

- 8 Front Cover of Shutter with depth of field indicator
- 9 Shutter Speed Ring to set the exposure times
- 10 Aperture Lever to set the iris diaphragm
- 11 Button to open the camera front
- 12 Film Winder
- 13 Catch to open and close the camera back



**-** 5 -

- 1 Release
- 11 Button to open the camera front
- 12 Film Winder
- 14 Accessory Shoe
- 15 Indicator Window for finder setting
- 16 Signal Window of double exposure lock
- 17 Milled Wheel to change finder setting

- 18 Viewfinder Eyepiece
- 19 Film Window for  $2^{1/4} \times 1^{5/8}$  inch (4.5  $\times$  6 cm.) pictures
- 20 Knob for opening and closing the film windows
- 21 Film Window for  $3^{1/4} \times 2^{1/4}$  inch (6 × 9 cm.) pictures

### The Double Exposure Lock

automatically locks the release after every exposure, thus indicating that the film has to be advanced to the next picture.

Observe the signal window of the double exposure lock between exposures. The black arrow shows whether you are ready to shoot, or whether you have to wind the film first. When you have loaded the film and wound it to the first exposure, the arrow will point to the release: expose. When you tension and release the shutter, the arrow automatically reverses, and points to the film winder: advance the film. At the same time the release is locked. When you wind the film, the arrow turns back again, unlocking the release.

**Note:** The fact that the arrow turns back after a quarter turn of the film winder does not mean that the film is already in position for the next exposure. So wind on until the next number appears in the film window at the back.

If you want to take  $2^{1}/_4 \times 1^{5}/_8$  inch  $(4.5 \times 6 \text{ cm.})$  pictures instead of the full  $3^{1}/_4 \times 2^{1}/_4$  inch  $(6 \times 9 \text{ cm.})$  size, insert the small-picture mask which is supplied with every camera.

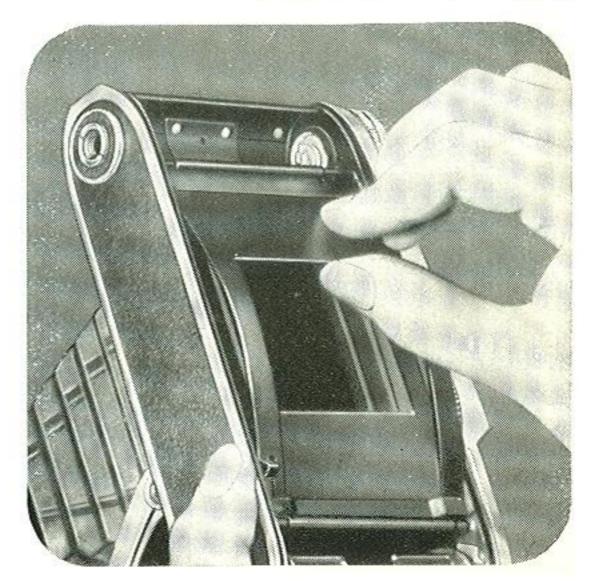
Before loading the film, push the top and bottom tongue of the mask behind the film aperture. Take care that the small guide-pin at the top right of the film aperture catches correctly the hole at the edge of the small-picture mask. Closing the camera back will now automatically open the second film window 19 which otherwise remains closed (see page 10).

With  $2^{1}/_{4} \times 1^{5}/_{8}$  inch shots you have to wind the film twice for each number, thus:

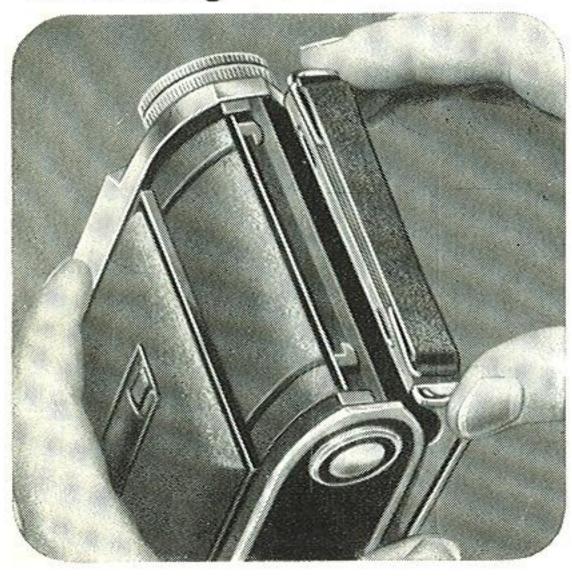
1st picture: No. 1 in film window 21 2nd picture: No. 1 in film window 19 3rd picture: No. 2 in film window 21 4th picture: No. 2 in film window 19

and so on. (See illustration on page 5)

# The $2^{1/4} \times 1^{5/8}$ inch $(4.5 \times 6 \text{ cm})$ mask



# Loading and Unloading the Camera



The Bessa I has been purposely designed to take only roll film spools having a thick core of metal or wood, and marked on the packing with B II/8 or 120. You obtain 8 exposures of  $3^{1}/_{4}\times 2^{1}/_{4}$  inches each with these films, or, with the film mask, 16 exposures of  $2^{1}/_{4}\times 1^{5}/_{8}$  inches  $(4.5\times 6 \text{ cm.})$  each.

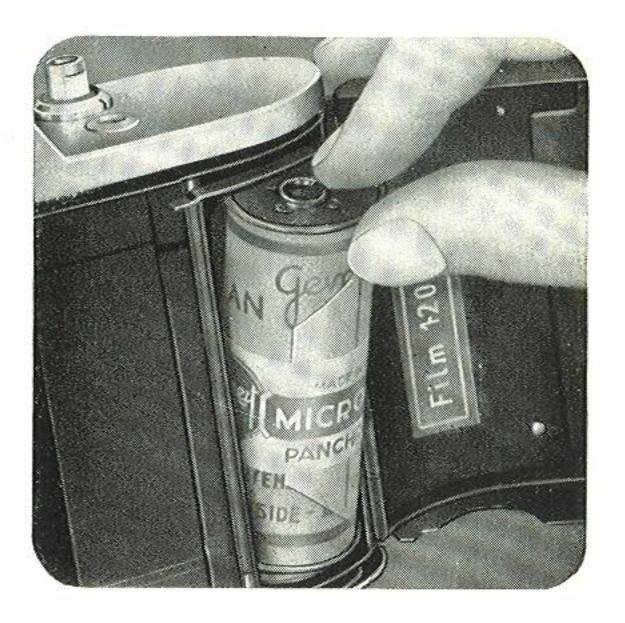
Important: Do not allow any strong light to fall on the film, once you have removed the protective wrapping. Always load and unload the film in the shade, the shadow of your own body will do.

First, press the two catches and pull away the back (see figure).

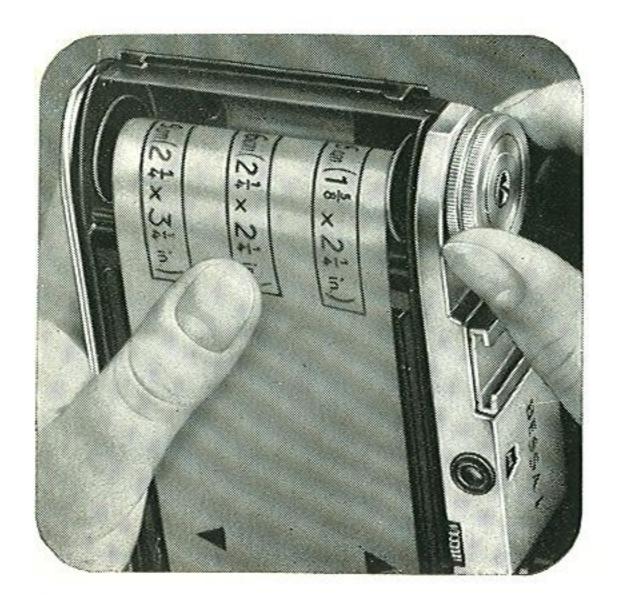
Of the two spool chambers, the one under the film winding knob holds the empty take-up spool. If it is in the other chamber, remove it and change it over (see bottom of page 11).

In the opposite chamber put the unexposed film spool. Hold the film with the tip of the coloured backing paper pointing towards the take-up spool. Put the pin in the chamber in the aperture at the end of the spool (see figure), then push the spool in the chamber. The film is now correctly positioned. Break the paper seal on the backing paper, pull the paper over the film aperture and insert it in the wide slit of the take-up spool.

#### Inserting the Film Spool



#### Winding the film to the first picture.



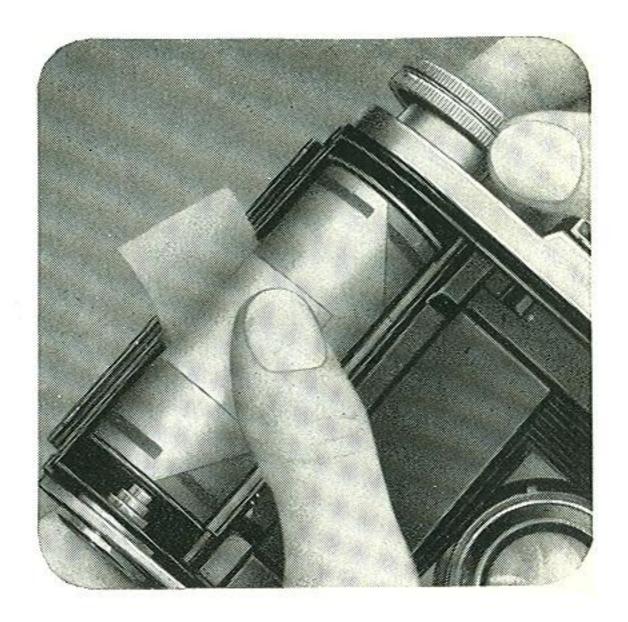
Now turn the film winding knob until the two arrow heads ◀▶ on the backing paper come into view. Close the camera back, and make sure that both catches engage properly.

Open the film window 21 by turning the milled knob on the camera back. With the mask (see also page 8) in position, this also opens the second film window 19. Slowly continue turning the film winder until various symbols on the backing paper pass the film window 21, followed by the figure "1" (first picture). Close the film window; open it only when winding the film from one number to the next.

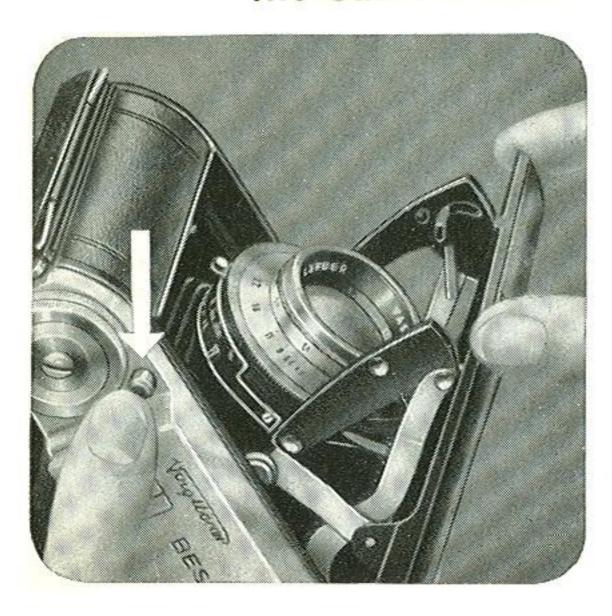
Close the baseboard (see page 12), and continue winding the film until it is fully wound up on the take-up spool. We can observe the passing of the end of the backing paper by opening the film window in the camera back.

Open the back. Grip the film firmly to prevent it from unwinding, pull up the winding knob and lock it by a quarter turn (see figure). Remove the film spool and immediately seal it with the attached gummed label. It is a good idea to put the empty spool in the take-up spool chamber at once. Simply handle the camera as previously described, but in reversed order, taking care to insert the spool with its slotted end facing the winding knob.

#### Unloading the Film



### Opening and Closing the Camera Front



To open the camera front, press the button to the right of the film winding knob. Pull down the baseboard by its corners with two fingers (see illustration), until both struts firmly click into place. The lens panel is now in position for picture taking.

To close the camera, slightly lift both struts by the red marks (in the direction of the arrows) and fold the base-board up against the camera body until it catches.

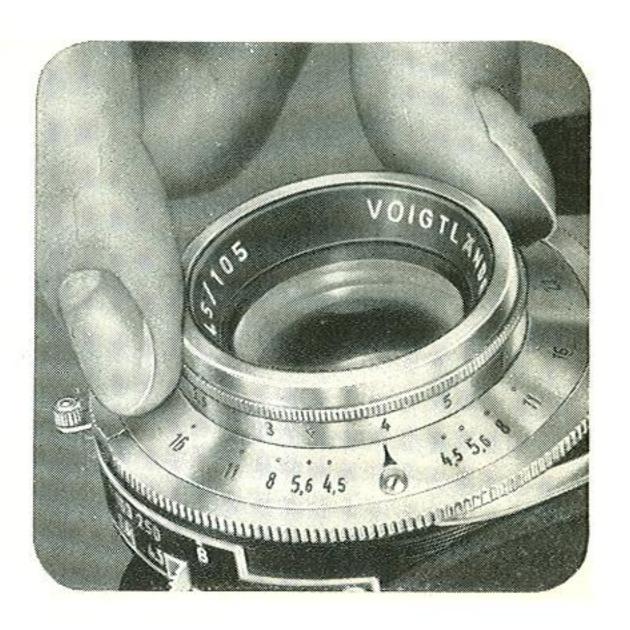
**Note:** This is the only proper way of closing the camera; never try to push the struts inwards.

You can guess the subject distance, or, better still, measure it with the aid of a supplementary rangefinder. This will fit into the accessory shoe on top of the camera.

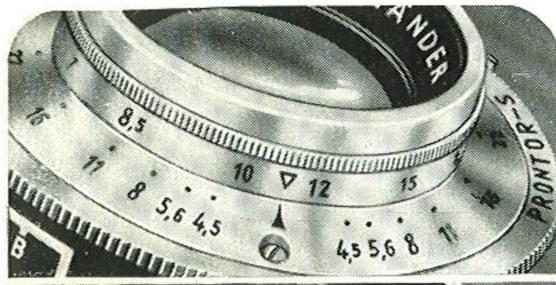
To set the distance, turn the lens mount until the required distance figure is opposite the arrow head ▲ on the front cover of the shutter. The aperture numbers to the left and right of the arrow head show the depth of field available (see page 30).

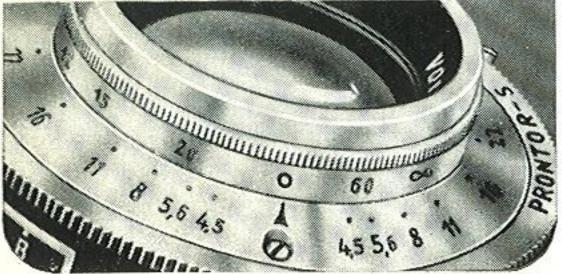
The focusing scale also carries the symbols ∇ (corresponding to about 11 feet or 3.3 metres) and O (corresponding to about 33 feet or 10 metres). These are the snapshot settings (see page 14).

## Setting the Distance



## The Snapshot Settings





Candid snapshots, for instance of children at play, often give surprisingly attractive and live pictures. Instead of focusing on exact distances, set the scale to the near-point  $\nabla$  (11 feet) to get everything sharp from 8 to 16 feet (2.5 to 5 m.); or to the far-point O (33 feet) for subjects from 16 feet (5 m.) to infinity ( $\infty$ ).

## Stop down to at least f/11 to ensure adequate depth of field.

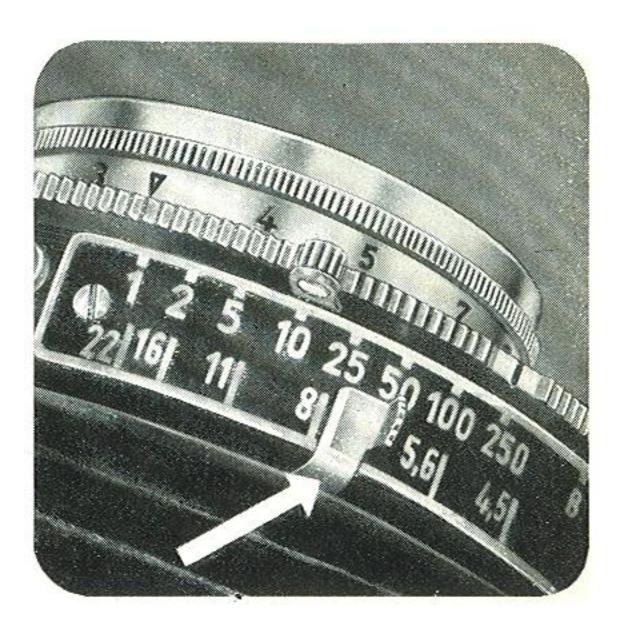
In good light these settings are very useful for sports photography where the subject distance may change very quickly.

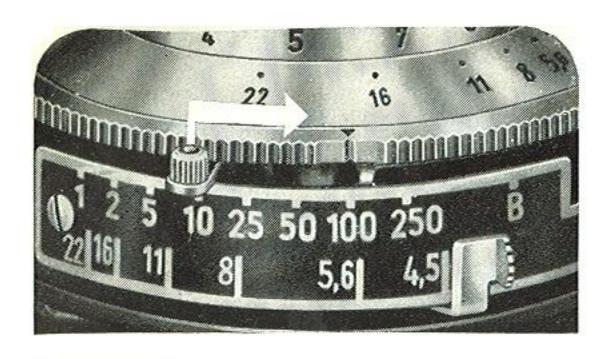
The aperture (stop) of the iris diaphragm regulates the amount of light which reaches the film. It controls both the exposure time required and the depth of field (See page 30 for aperture and depth of field).

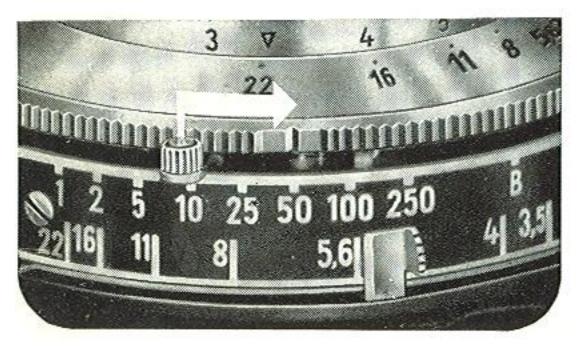
The aperture itself decreases as the aperture number or f/number increases, and vice versa. Thus every aperture number requires twice or half the exposure of the preceding or following number respectively. For example, if the correct exposure at f/5.6 is 1/50 second, we shall need 1/25 second at f/8.

To set the aperture, move the aperture lever (see arrow in illustration) until it is next to the index line corresponding to the required f/number.

## Setting the Aperture







## Setting the Shutter Speeds

This camera is fitted with the PRON-TOR-S or the PRONTOR-SV shutter.

To set the speeds, turn the speed ring until the mark on the ring is opposite the selected exposure time. The figure "1" stands for 1 second, all other numbers signify fractions of a second. Possible speeds: 1, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100 and 1/250 sec.

The "B" setting is for time exposures. On releasing at this setting, the shutter will stay open as long as the release is kept depressed.

To tension the shutter — necessary even at the "B" setting — pull the tensioning lever upwards as far as it will go (see illustr.)

With the PRONTOR-S the delayed action lever must be pulled up as far as it will go (see arrow at right) and the selftimer is ready for action. With the PRONTOR-SV the synchronizing lever must be put to the red dot X (see ill.) before the delayed action lever is pulled up as above.

After pressing the shutter release you have about 10 seconds to get to your place in front of the camera before the shutter goes off by itself. **Note:** The self-timer cannot be used with the shutter set to "B".

#### The Self-timer



### Setting the Optical Finder



The optical finder can be adjusted for either of the two negative sizes of  $3^{1/4} \times 2^{1/4}$ " (6×9 cm) and  $2^{1/4} \times 1^{5/8}$ " (4.5 × 6 cm), as well as for near and distant subjects, to compensate parallax.

To change the setting, turn the small milled wheel at the right of the finder eyepiece until the indicator-window shows the required figures, viz:

 $1 \frac{6 \times 9}{1 \text{ m/3 ft.}} = \frac{3^{1}/4 \times 2^{1}/4}{\text{jects between abt. 5' and 8'}}$ 

 $_{4\times6}^{\infty}=_{\rm jects\ between\ abt.\ 8'}^{2^1/4\times1^5/8''}$  (4.5×6 cm) pictures of subjects between abt. 8' and  $_{\infty}$ 

 $4 \times 6 = \frac{2^{1}/4 \times 1^{5}/8}{1 \text{m}/3 \text{ ft.}} = \frac{2^{1}/4 \times 1^{5}/8}{1 \text{ects between abt. 5' and 8'}}$ 

But set the finder to the  $2^{1/4} \times 1^{5/8}$ ' size only when the mask is in position inside the camera (see page 8).

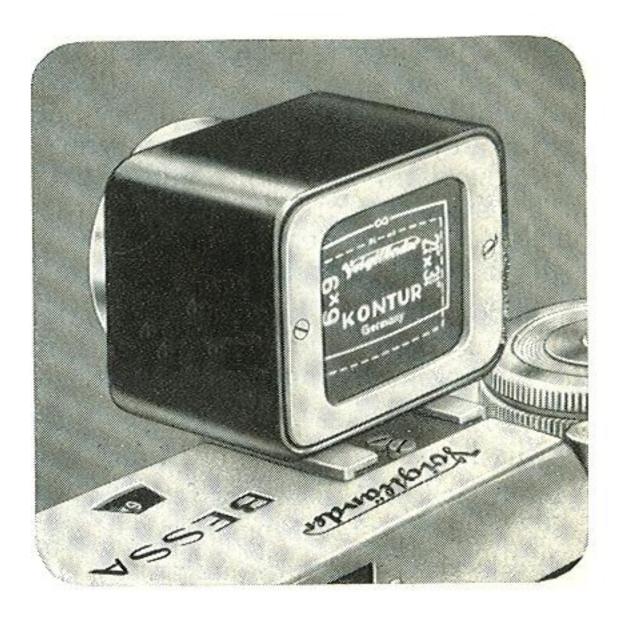
The Voigtländer  $3^{1/4} \times 2^{1/4} / 2^{1/4} \times 1^{5/8}$  inch  $(6 \times 9 / 4^{1/2} \times 6 \text{ cm.})$  KONTUR finder is extremely useful when following fast moving subjects (e.g. sports). It is ideal for people who wear spectacles.

To use it, keep both eyes open while sighting the subject. The eye looking past the finder will see the subject and its surroundings in their natural size and brightness, while the eye looking into the finder will see a frame outlining the field of view. The dot within the frame marks the centre of the field, and a dotted line indicates the parallax correction for close-ups from 5 to 6.6 ft.

The finder fits into the accessory shoe; push it forward as far as it will go.

Note! Do not allow any direct sunlight to reach the eyepiece of the Kontur Finder.

#### View finder «KONTUR»



### Close-Up Work With Focar Lenses

Do not miss this highly interesting field of photography which, unfortunately, so many amateurs neglect. Largescale pictures of flowers, butterflies, and other small animals, small "objets d'art", etc. may yield effects of extraordinary beauty. With the help of Voigtländer Focar lenses you can, moreover, make excellent copies of pages of books, stamps, or small pictures. Care, however, is recommended in portraiture, as perspective may easily appear distorted in this case.

The Focar lenses shorten the focal length of the camera lens and thus allow the camera to approach the subject much closer, giving a larger image.

**VoigHänder** Focar Lenses in push-on mounts are supplied for two different distance ranges:

F 1 for subject distances from 2'  $7^{1/2}$ " to 1'  $8^{3/4}$ " F 2 for subject distances from 1'  $5^{1/2}$ " to 1'  $1^{1/2}$ " Suitable size: 37 mm diameter.

#### FOCUSING TABLE

Distance scale on	Subject in sharp focus when using				
camera set to	Focar 1	Focar 2			
∞	2' 71/2''	1' 51/2''			
60'	2' 7 1/2'' 2' 6 1/4'' 2' 5 1/4'' 2' 3 3/4'' 2' 2 3/4'' 2' 1 1/2'' 2' 1 1/2''	1' 5''			
0	2' 51/4''	1' 43/4''			
20'	2' 33/4''	1' 41/4"			
15'	2' 23/4''	1' 4''			
12'	2' 13/4''	1' 38/4''			
$\nabla$	2' 1 1/2''	1' 31/2''			
10'	2' 1''	1' 31/4''			
8'	1' 113/4''	1' 23/4''			
7'	1' 11''	1' 21/2"			
6'	1' 10''	1' 2''			
5'	1' 83/4''	]' ] 1/2"			

#### How to Use the Focar Lenses:

- Approach the camera to the subject until its image in the finder has the size you want. Then push a Focar F1 or F2 lens — whichever covers that subject distance — over the camera lens mount.
- Measure the distance accurately from the front surface of the Focar lens to the centre of the subject, and set the distance on the lens mount of the camera according to the table opposite.
- At full aperture (f 3.5 or 4.5) the image may not be absolutely sharp, particularly towards the corners. However, the definition improves at f/5.6, and reaches its normal standard at f/11.
- The Focar lenses do not affect the exposure time. Longer exposures are, of course, required when stopping down.
- Owing to parallax, the image on the negative is no longer exactly the same as the view in the finder. The displacement amounts to about 1/10 of the image height with the Focar F1, or about 1/5 with the Focar F2.

## **Using Filters**

Your Voigtländer lens will satisfy your most exacting demands as far as definition is concerned, but you can greatly enhance the mood of your pictures or obtain special effects with Voigtländer filters. With a few exceptions, therefore, use a filter for all outdoor exposures wherever possible. The sky in particular, with or without clouds, is rendered more natural, and will look more beautiful.

Do without filters only when you need very short exposure times in poor light, such as sports shots in dull weather, or fog or mist subjects, and the like. Voigtländer filters are made of spectroscopically tested glass with all surfaces polished absolutely parallel. They thus fully preserve the outstanding definition of the Voigtländer anastigmat lenses. These mass-dyed filter glasses are guaranteed fast to light and heat.

All filters are available in a push-on mount (37 mm. diameter for the BESSA I), and can be used in combination with a Voigtländer Focar lens, or the lens hood, or both.

### VoigHänder Yellow Filter G 1

The pale yellow G1 filter is recommended for all subjects where only a slight filter effect is desired, or where the greater exposure increase of the medium yellow G2 filter is not practicable. The filter factor is  $1^{1/2}$  to 2 times.

#### **VoigHänder** Yellow Filter G 2

This is an all-round filter for outdoor shots. It strongly shows up white clouds against a blue sky, and increases the luminosity of fair hair, ripening wheat, or spring or autumn foliage. It is indispensable for snow scenes. The filter factor is 2 to 3 times.

### VoigHänder Orange Filter Or

This is an effect filter. It strongly subdues the blue of the sky, and lightens yellowish and reddish tones. It penetrates the atmospheric haze of distant views, and largely suppresses skin blemishes in outdoor portraits. The filter factor is 5 to 6 times.

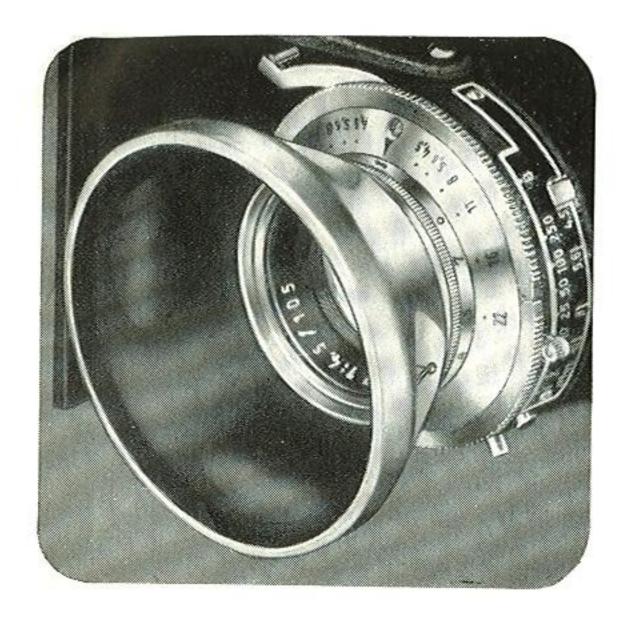
### Voightänder Green Filter Gr

for better reproduction of green in landscapes. When using certain panchromatic films, highly sensitive to red, the action of green is promoted by subdueing the red. Consequently too pale lips and too dark eyes are avoided on portraits in artificial light. The filter factor is 3—4 times.

### Voighander UV Filter

This filter cuts out ultra-violet radiation, which, particularly in high altitudes, may otherwise cause unsharpness. It still preserves the delicate atmospheric perspective in black-and-white shots. With colour pictures it reduces the unpleasant blue cast of distant views, and gives a more natural colour balance. Black-and-white films need no extra exposure; with colour films the factor is 1½ times.

#### The Lens Hood



The brilliant outlines and intriguing shadow patterns of against-the-light shots provide some of the most attractive pictorial subjects. Here the lens hood is an important accessory, for it shields the lens from disturbing direct and side light. Preferably take such subjects with the light coming at an angle from behind.

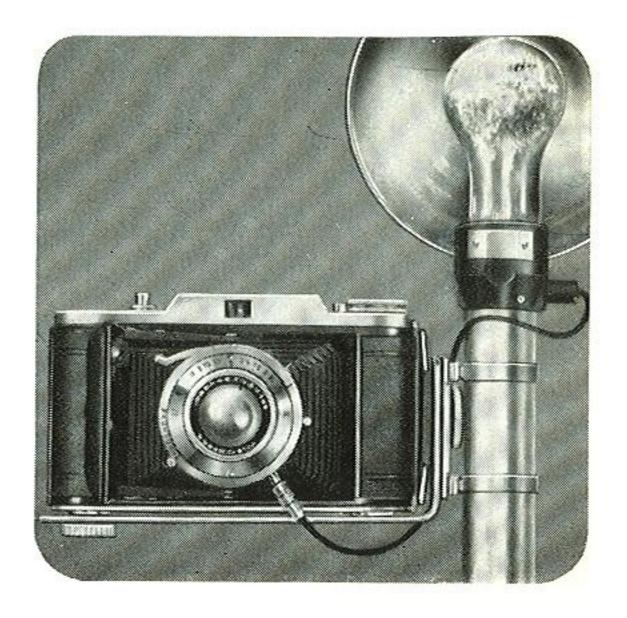
The lens hood is also useful in bad weather, as it protects the lens against drops of water that might fall on it.

The metal lens hood, 37 mm. in diameter for the BESSA I, will fit directly on the camera lens, as well as on top of any Voigtländer filter or Focar lens already in position.

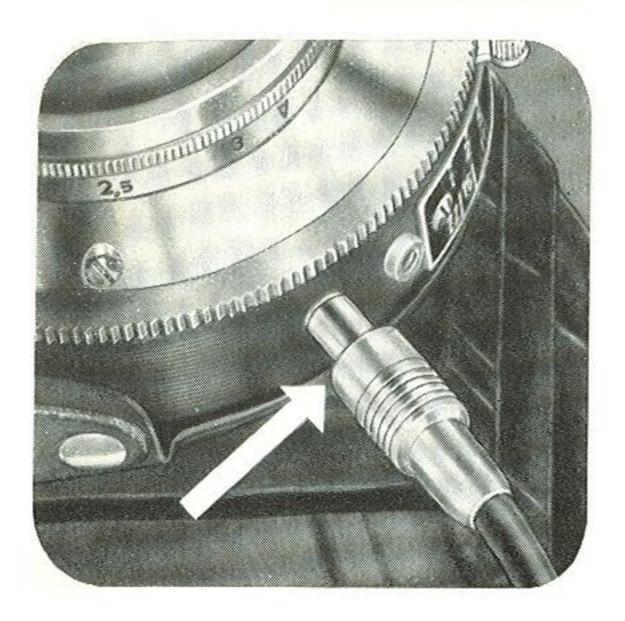
The PRONTOR-S, as well as the PRON-TOR-SV shutter make synchronized flash exposures of moving subjects possible. The flash can be used either by itself, or combined with daylight or any other light. It is particularly useful for lighting up shadow areas in against-the-light shots.

All makes of flash units — flash guns for bulbs as well as electronic flash equipment — can be used with the shutter. The following pages give a brief account of how to connect and use the different types of flash equipment.

## Synchronized Flash Shots



## Connecting the Flash Unit to the Camera:



Mount the camera on the connecting bracket of the flash unit by means of a tripod screw. The flash unit should be to the left of the BESSA, so that it does not interfere with the operation of the release (see illustration on page 25). Some light-weight flash guns will even clip directly into the accessory shoe on top of the camera.

Then wire up the flash unit to the camera shutter by means of the flash cable, pushing the plug at the end of the cable over the contact pin on the shutter.

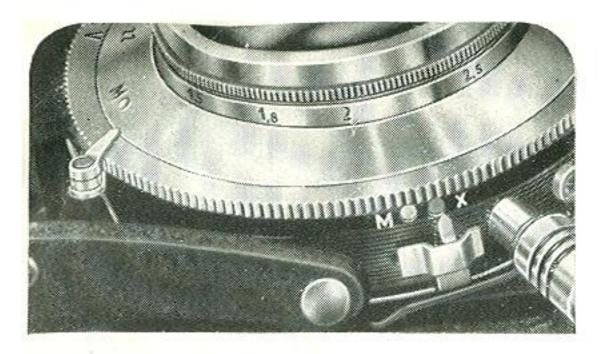
The outer pole of the flash contact is earthed to the shutter. To avoid wiring up the leads the wrong way round, get an expert to connect the cable to the flash gun the first time.

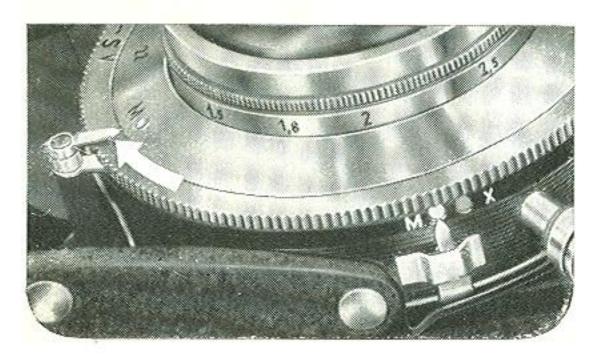
#### Setting the Shutter:

Flash bulbs and electronic flash tubes vary in their firing delay times, and are classified accordingly in the table on page 29. To ensure that the peak brightness of either type of flash coincides with the maximum opening of the shutter — i.e. to synchronize the shutter accurately with the flash — there are two kinds of synchronization, labelled "X" and "M".

- The PRONTOR-S shutter incorporates only the "X" type of synchronization. It is suitable for synchronized flash shots (with or without the self-timer) at the shutter speeds listed under "Red dot X" in the table. The shutter needs no special adjustment.
- With the PRONTOR-SV the synchronizing lever must be set either to the red dot X or the yellow dot M, in accordance with the type of flash at hand. When setting to M it is necessary to pull up the delayed action release before each exposure as far as it will go (see lower ill. on page 28). In this particular case the delayed action releaser is not used as a self-timer.

For flash exposures with self-timer, the synchronising lever must be set to the red dot X on principle (see upper ill. on page 28). Then pull the delayed action release up as usual. For possible exposure times look up table on page 29.





#### "X" Setting:

For exposures without any firing delay.

Releasing the shutter after tensioning automatically closes the flash circuit at the instant when the shutter blades have just reached their maximum opening.

#### "M" Setting:

For exposures with a pre-set firing delay.

Here the flash circuit is closed a short time before the shutter blades begin to open.

#### Load Capacity:

The flash contact will carry the firing current of all types of electronic flash tubes. With flash bulbs it will carry a temporary load of 10 amps at 24 volts, thus allowing simultaneous firing of several bulbs connected in parallel. The longest permissible exposure time in this case is 1/10 second.

Caution: The flash contact must never be used to fire bulbs from 110 or 220 volt electric mains.

#### SUITABLE SHUTTER SPEEDS

	Flash Bulbs		Synchronizing lever		
Class	Make	Туре	Red Dot	Yellow dot ("M")	
F	General Electric G.E.C. Mazda Westinghouse	SM	1 to 1/50	In addition pull the de- layed action lever to-	
•	Sylvania	SF	1 10 1/30		
	Philips	PFS		wards the	
		FO	1 to 1/50	''M'' as far as it will go	
-	Osram	F1, F2 XO, XP	1 to 1/25		
	0	S 2	1 to 1/10	1/25 to 1/250	
1	Osram	S 0, S 1			
M Gene G.E. West	Philips	PF 14 PF 25 PF 38 PF 60		1/50 to 1/250	
	General Electric G.E.C. Mazda Westinghouse	No. 5 No.11 No. 22	1 to 1/25		
	Sylvania	Press 25 Press 40 No. 0			
	27.1.4.1.1	No. 2	1 to 1/25	1/50 to 1/100	
	Philips	PF 3 N	1 10 1/25	1/30101/100	
S	Philips	PF 100		1/25 to 1/50	
	General Electric Westinghouse	No. 50	1 to 1/10		
	Sylvania	No. 3		1	
Electronic Flash		Synchronizing lever			
Class	Kind Kind		set to "X"		
x	Instantaneous firing		1 to 1/250		

### Aperture and Depth of Field

The depth of field of a picture is the part of the view which is still reproduced sharply in front of, and behind, the focused distance.

The depth of field is, however, not fixed. It becomes greater the more you stop down the lens and decreases the larger the lens aperture is used. So remember:

Large apertures (e.g. f/3.5 or 4.5) yield little depth of field Small apertures (e.g. f/16) yield great depth of field

You can very easily determine the depth of field. After setting the lens to the right distance, look at the front cover of the shutter. This carries two similar sets of aperture numbers to the left and right of the focusing mark \( \t \t \) while the focusing scale is immediately above. The depth of field at any aperture always extends from the distance above the left hand aperture number to the distance above the corresponding right hand aperture number (See illustration on page 14 under "The Snapshot Settings").

## Film Speeds

Film sensitivities or speeds are determined by the makers in various ways and often measured by different systems. The table on the right gives a rough comparison of the more usual systems.

Films slower than 24° BS Log Index (20 ASA) are extra fine grain films of the highest resolving power, allowing very great enlargement. They tend to be somewhat contrasty, and require accurate exposure.

25—27° BS Log Index (25—40 ASA) Films are best for average subjects. They are fast and give fine grain.

Films faster than 28° BS Log Index (50 ASA) are high speed films for occasions when the light is poor and the subject demands short exposures. Their high red sensitivity makes them particularly suitable for artificial light photography. Their grain is, however, somewhat coarser than with other types of film.

Remember: Every increase or decrease of 3° BS Log Index (double or half the ASA Index number) halves or doubles respectively the exposure required.

BS Log Index	ASA & BS	Din /10º	Scheiner	General Electric	Weston	H & D
19º	6	10	20°	8	5	125
20º	8	11	21°	10	6	150
21º	10	12	22°	12	8	200
22°	12	13	23º	16	10	250
23°	16	14	24º	20	12	300
24°	20	15	25º	25	16	400
25°	25	16	26º	32	20	500
26°	32	17	27º	40	24	600
27°	40	18	28º	50	32	800
28°	50	19	29º	60	40	1000
29°	64	20	30º	80	48	1250
30°	80	21	31º	100	64	1600
31°	100	22	32°	125	80	2000
32°	125	23	33°	160	100	2500
33°	160	24	34°	200	125	3200

#### Care of the Camera and Lens

Successful results and long life of the camera largely depend on correct handling and proper care. So:

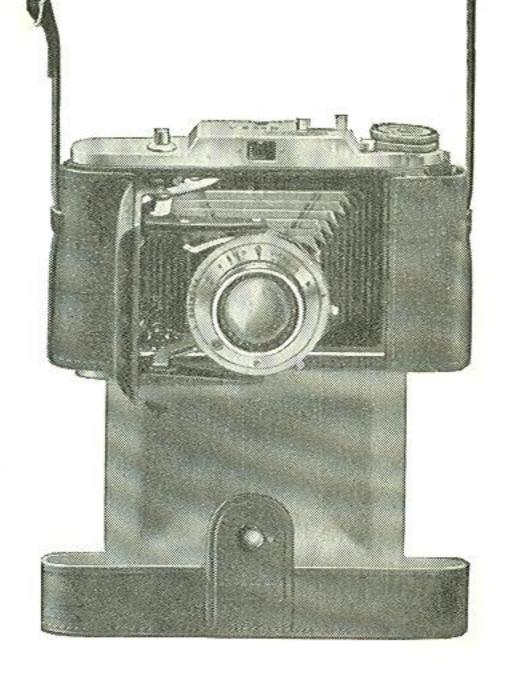
- Please treat the camera gently. Never use force; if anything seems to jam, better re-read the relevant sections of this booklet.
- Before loading a film, always remove any dust inside the camera.
- At the seaside carry the camera in its closed ever-ready case to protect it against wind-blown sand. Open the case only when actually taking pictures.
- Never touch the lens surface with your fingers; finger marks will spoil the definition.
- All surfaces, including the outer ones, of the lens carry an anti-reflection coating. To clean the lens, use a soft sable brush, or a soft piece of clean linen. Grease spots may be removed by careful dabbing with a piece of cotton wool moistened in alcohol.

The smart

## **VoigHänder** Ever-Ready Case

for the BESSA I is made of best-quality hide, lined inside, and is fitted with a carrying and neck strap.

This case will hold the camera while taking pictures, without impairing its speed of action in any way. At the same time it protects the BESSA against damage.



## Your Photo Adviser:

