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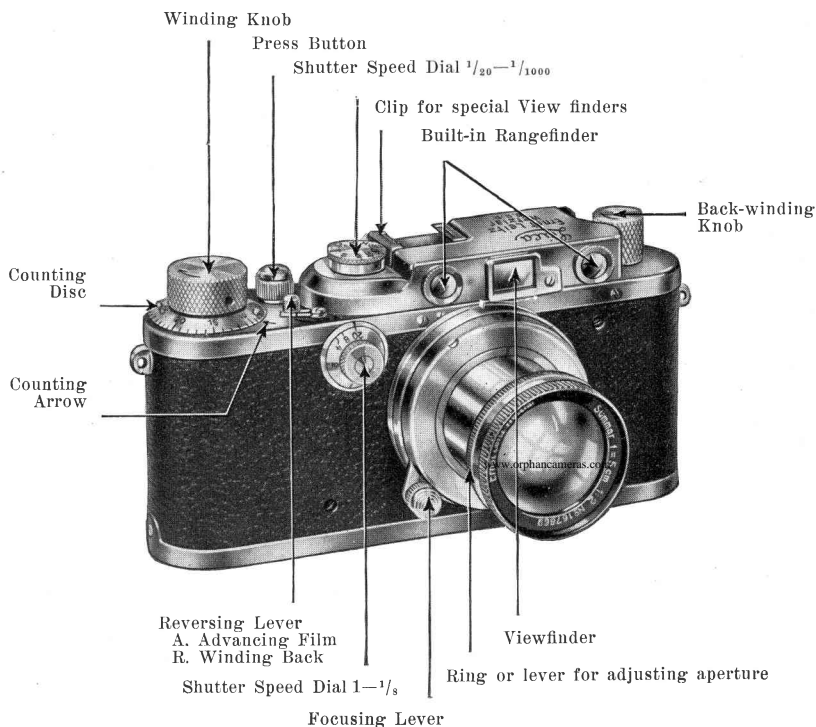
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# Leitz

PART I

## DIRECTIONS



# Leica Camera

E. LEITZ, INC., 730 FIFTH AVE., NEW YORK

# 1. The external parts of the Leica Camera

1. Winding knob for simultaneous winding of film and setting of shutter.
2. Counting disc, automatically recording the number of exposures.
3. One of the two lugs by means of which the counting disc is turned anti-clockwise and against the direction of the arrow on the winding knob for zero setting.
4. Counting Arrow, indicating the number of photographs taken.
5. Press Button, to which may be screwed a Wire Release (after the milled protective ring has been removed).
6. Reversing Lever for engaging (towards A) and disengaging (towards R) the automatic coupling of film advance and shutter mechanism before and after exposures have been made (before re-winding film).
7. Shutter-speed Dial, for adjustment of speed required (to be set after winding of shutter) — See (1).
- 7a. Adjusting dial for the slow instantaneous speeds from  $1-\frac{1}{8}$  sec.
8. Index Arrow, for figures of Speed Dial (7).
9. Clip, to hold Universal View-finder, etc.
10. View-finder showing size of image.
11. The two Object Glasses of the Range Finder, the mechanism of which is interconnected with the focusing mount of the lens.
12. Back-winding Knob (extensible) to wind the film back into spool chamber after exposure.
13. Camera Lid.
14. Pin over which the camera lid is hooked at one end. (See also 23.)
15. Lens changing flange for interchange of Leica lenses of various focal lengths.
16. Distance Scale. (Not visible.)
17. Lens focusing lever with catch for infinity, actuating the adjustment of range finder and focusing of lens simultaneously (index not visible in illustration).
19. Depth of focus collar. (Scale not visible, see Fig. 39.)
20. Tubular Socket of Lens, to be pulled out for photographing, when the lens is locked in a bayonet catch by turning it to the right (clockwise).
21. Ring or lever with index line for adjusting aperture.
22. Front of lens mount.
23. Swivel (not visible) for opening and closing camera lid (see Fig. 2).

## Prefatory Note

For the description of even the simple manipulations called for in the operation of the Leica camera much space may be required, in the form of text matter or illustrations. If at the outset the camera and the instructions for use are taken in hand together, most of the following instructions will at once become obvious. A full index to these instructions is given at the beginning of the booklet.

# *Leitz*

## Leica Camera Model G

for single (still) pictures on standard cinematograph film strips

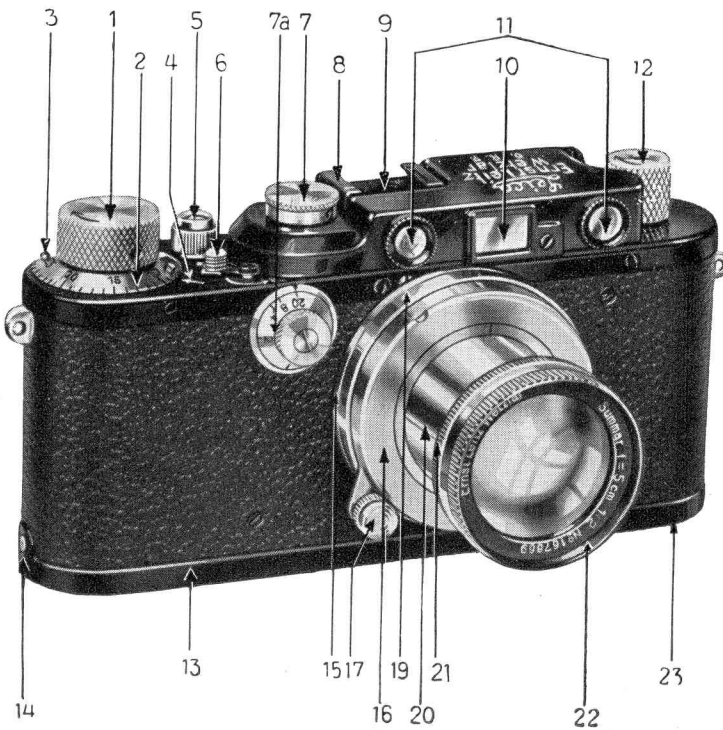


Fig. 1

## 2. Opening the Leica Camera

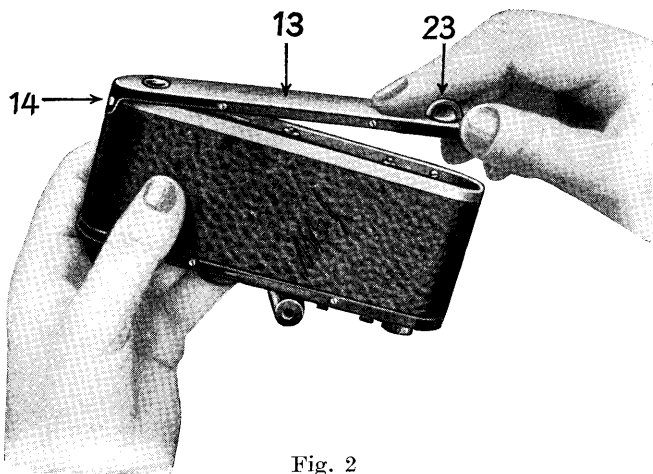


Fig. 2

Turn the camera upside down and open lid **13** by raising swivel **23** and turning same from "closed" to "open" as far as it will go. Lift lid and then unhook at pin **14**.

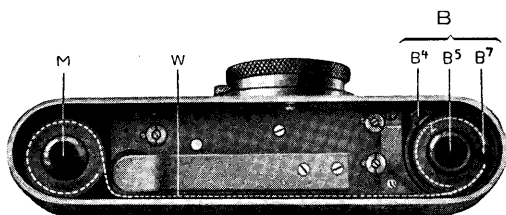


Fig. 3

The interior then presents the appearance as shown in Fig. 3. Now withdraw the spool chamber **B** by the milled knob.

## B. The Leica Spool Chamber Model B

### 1. Its Components

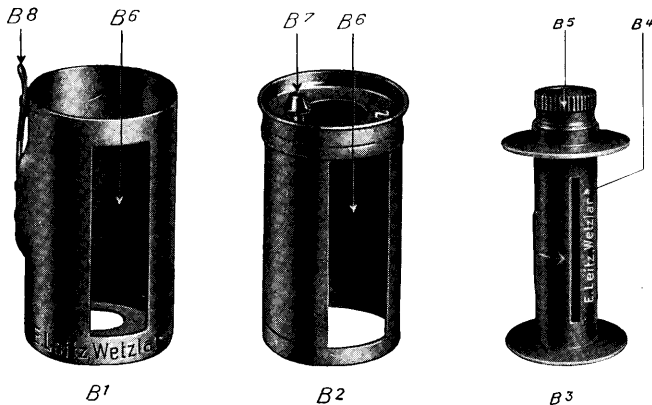


Fig. 4 and 5



- B = Complete Spool Chamber Model B
- B<sup>1</sup> = Outer Shell
- B<sup>2</sup> = Inner Shell
- B<sup>3</sup> = Centre Spool
- B<sup>4</sup> = Slot of Centre Spool
- B<sup>5</sup> = Milled Knob of Centre Spool
- B<sup>6</sup> = Slots of Spool Chamber
- B<sup>7</sup> = Knob of Spool Chamber
- B<sup>8</sup> = Safety Spring

The Leica Chamber Model B is of cylindrical form and consists of three components: the Outer shell B<sup>1</sup>, the Inner shell B<sup>2</sup>, and the centre spool B<sup>3</sup>.

The guide-groove on the inner shell and the pin inside the outer shell (opposite the safety spring, which is not visible in illustration) make the opening and closing of the chamber mechanical.

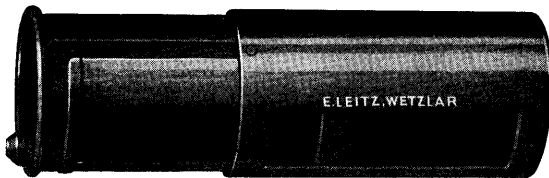


Fig. 6. Leica Spool Chamber Model B open

As will be seen in the illustration, Fig. 6, the guide-groove first runs along the inner shell and then terminates in a semi-circle at the upper rim of the shell. The guide-pin of the outer shell then constrains the inner shell to be moved along the slot in the required manner, thus:

1. Introduce the inner shell with spool in the outer shell until its rim comes to a stop, **the slot openings being then one above the other**;
2. **Turn inner shell to the left (anti-clockwise)** up to the limit stop, when the safety spring will then engage.

Again, the chamber **can only be opened** by first slightly lifting the safety spring, turning the inner shell to the right (clockwise), and then withdrawing it, i.e. by going through the same process in exactly the reverse order. (See Fig. 8.)

## 2. The Leica cartridges

### for daylight loading and unloading

The Leica spool chamber Model B may be loaded into the camera in daylight and may also be removed in daylight, but the film cannot be taken out of the spool chamber

in daylight, so that in special circumstances one may need a larger number of spool chambers in order to avoid unloading them in the darkroom.

In such cases, the Leica cartridges of Messrs. Agfa, Du Pont, Gevaert, Kodak and Perutz provide a satisfactory solution. These firms supply their films in special Leica cartridges for daylight loading. The cartridge is used once only and is opened in the darkroom for developing the film.

Stringent warning is given against the re-loading and the repeated use of these cartridges in the manner of spool chambers: this practice involves the risk of damage both to the film and to the shutter.

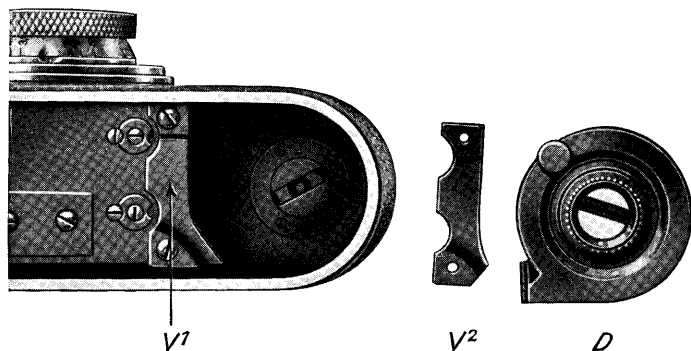


Fig. 7

The loading of the Leica cartridges into the camera, and also the unloading, is done in the same way as a loaded spool chamber Model B. For further details see pages 11—15.

**Please note.** Leica cameras which are not yet equipped with the lock  $V^2$  (see Fig. 7) must have this part fitted if the Leica cartridges are to be used.

To enable Leica cartridges to be used also in earlier models of the camera, the lock  $V^1$  as shown in Fig. 7 must, by loosening the two screws which hold it, be exchanged for a new  $V^2$  lock of somewhat different form. This is quite an easy matter. The new lock is supplied free of charge. After changing the lock, not only Leica cartridges, but also all other Leica spool chambers may be used in the camera.



### 3. Loading of Film Chamber Model B in the darkroom

(In this case darkroom loading film spools are used)



Fig. 8

How the spool chamber Model B should be opened

1. Open spool chamber. To this end release with the index finger of the left hand the safety spring **B**<sup>8</sup> by pulling it backwards (Fig. 8) and turn the inner shell with the right hand at the knob towards the right (clockwise) to the end of the movement. Then withdraw inner shell.
2. Remove the centre spool from the inner shell. Take the wrapping off the film.
3. Thread the short tapered end of the film in the slot **B**<sup>4</sup> of the centre spool **B**<sup>3</sup> (emulsion side next to the arrow) in the direction of the arrow.

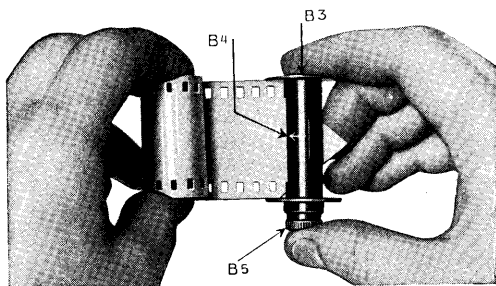


Fig. 9

- 3a. In the case of centre spools of earlier type there is no slot, but instead a spring under which the short tapered end of the film is pushed: it is then sharply folded back so as to secure it well.

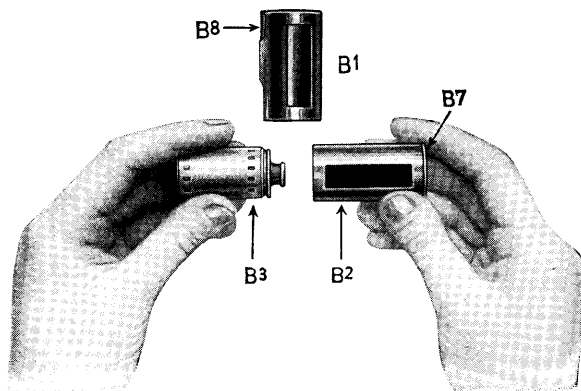


Fig. 10

4. Wind film on centre spool moderately tight, emulsion side inward, and if possible use hand film winder or mechanical winder. Take care that emulsion is not touched.
5. Introduce film spool into the inner shell, milled knob first, the beginning of the film lying in the slot.

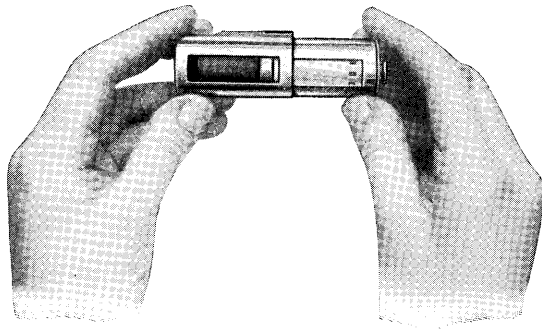


Fig. 11

6. Put both together into the outer shell, superimposing the two slots. Pull out the beginning of the film about 2 inches through the open slots.
7. Close spool chamber by giving the inner shell half a turn to the left until the safety spring engages at Z.

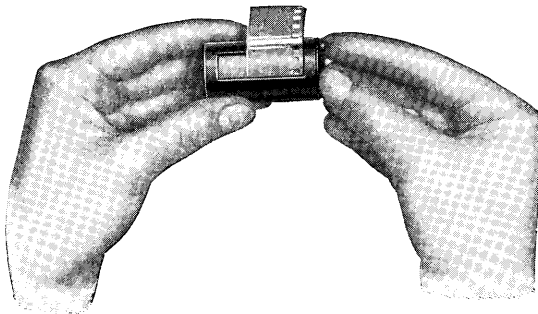


Fig. 12

8. Pull out the beginning of the film about 2 to 3 inches from the closed spool chamber, so that it does not slip back. The spool chamber B bears near the slot in the outer shell a curved engraved line, with which the beginning of the cut-away portion of the film should coincide.
9. If the loaded chamber is not immediately inserted into the camera it should be kept in the aluminum container after the projecting piece has been wound around the chamber.

## C. Loading of the Camera in subdued daylight

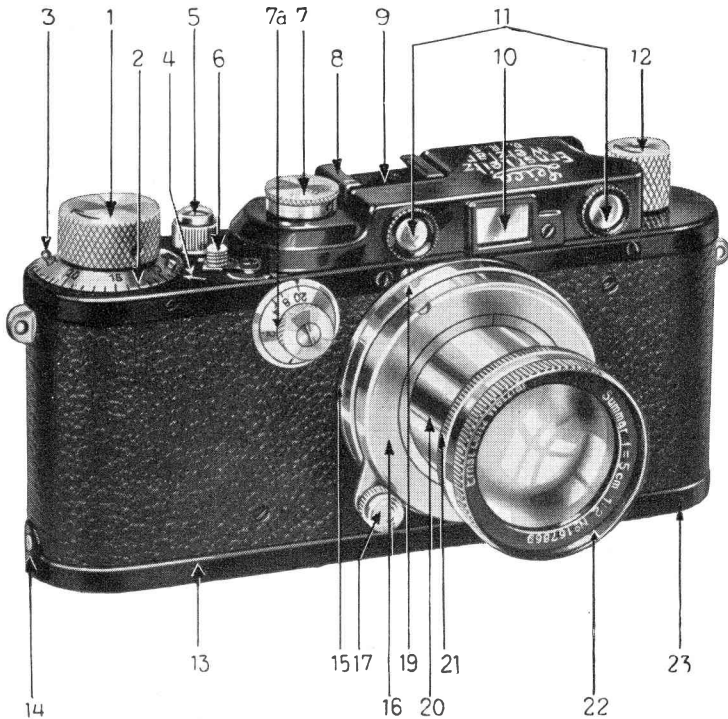


Fig. 13

**Note.** The loading of the camera should be done in subdued daylight and the slot of the chamber should be covered up as well as possible. The chamber should not be exposed to daylight longer than is absolutely necessary for loading.

1. Set the reversing lever **6** from **R** to **A**.
2. Wind the knob **1** once and release press button **5**.

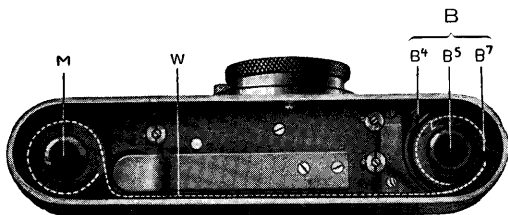


Fig. 14

3. The camera having been already opened as per Fig. 2 and the withdrawn spool chamber loaded, now withdraw also the receiving spool **M** (counter spool).

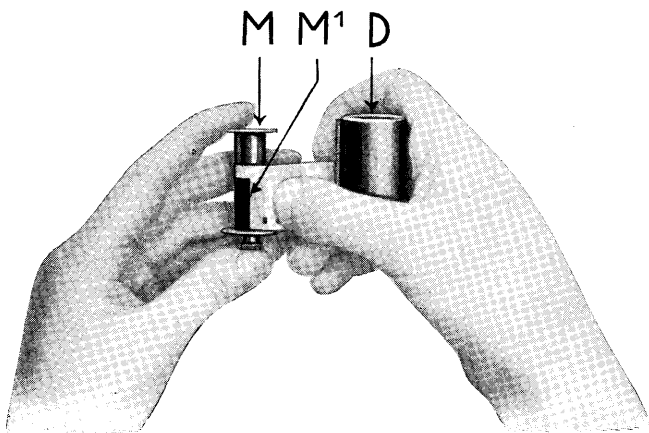


Fig. 15

4. Hold receiving spool **M** with left hand and the loaded chamber **B** in the right, as shown in Fig. 15. Clamp the beginning of the film (**emulsion side outwards**) under the spring **M¹** of the receiving spool. (The perforated edge of the film should lie right against the flange with knob.) Do not, however, wind film on. The tapering of the film should begin close to the slot of the chamber.

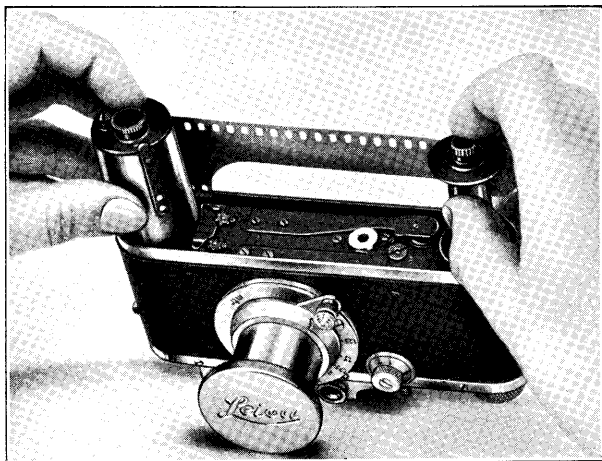


Fig. 16

(Please also refer to Fig. 14 showing correct position of film by a dotted line)

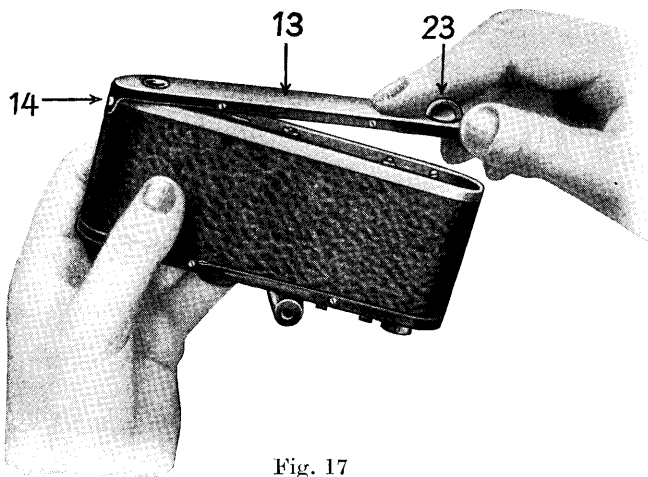


Fig. 17

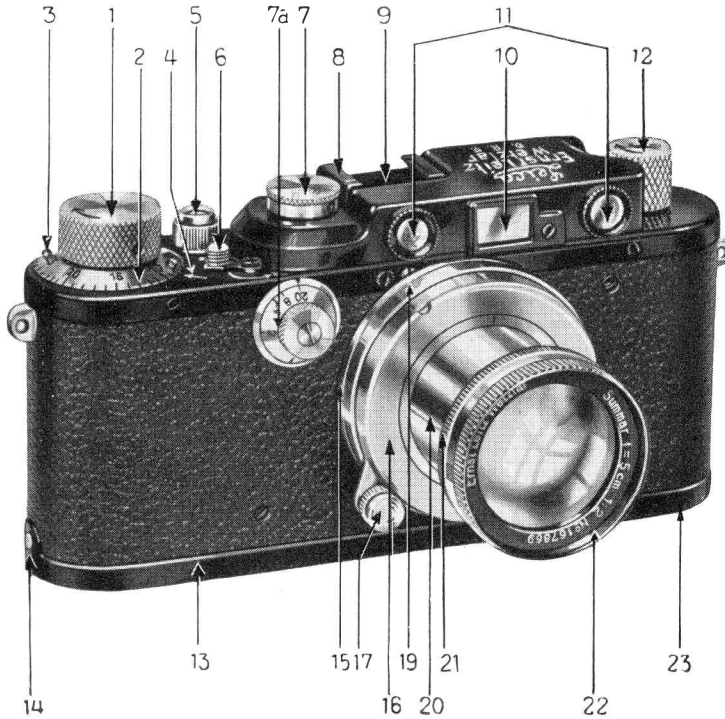


Fig. 18

5. Place the opened camera in front of you with the lens facing the body. Hold spool chamber in the left hand and the receiving spool in the right hand, and introduce the film into the slit **W** with the tapered side downwards. (If the spool chamber does not drop right down, give a small turn to back-winding knob **12**.) Turn back-winding knob gently in the direction of arrow until the film becomes quite taut.
6. Hook camera lid **13** (swivel **23** set to "open") over pin **14**. Close lid and
7. Turn swivel **23** right over to "closed".
8. Wind knob **1** once and release press button. Repeat this once more. (This in order to dispose of the useless tapered beginning of film.) Especially when film cartridges are being used the first winding must be done carefully, since the film is liable to be somewhat difficult to withdraw at first. For further instructions for film winding see pp. 21—22.
9. Turn counting disc **2** by means of the two lugs **3** towards the left (i.e. against the direction of the arrow of the winding knob **1**) to **0** position.

## D. Taking the Photograph

1. Pull out lens, and turn it **to the right (clockwise)** so as **to lock it in the bayonet catch.**
2. Adjust iris diaphragm by means of lever or ring **21** (Fig. 18).
3. Wind knob **1** in direction of arrow right to stop.
4. See that shutter speed is correct or set it by lifting the speed dial **7**, at the same time turning it so that the required figure lies against the index arrow **8**. Let go knob which will then settle in position. At **Z** the shutter remains open as long as the button is pressed down.
- 4a. See further remarks page 22 re Leica Model F and G.
5. Sight the object through range finder **11**, turning focusing lever **17** until the two images coincide (fuse into one). Use view-finder **10** to view the whole field and gently (not jerkily) release press button **5**. When photographing rapidly moving objects the range finder should be used as view-finder.

## E. Unloading of Camera in subdued daylight

1. Release once again press button **5** (whether knob **1** is wound or not).
2. Set reversing lever **6** from **A** to **R**.
3. Pull out back-winding knob **12** and turn in direction of arrow until a resistance is felt and wind over this resistance. (This means that the end of the film comes off the spring of the receiving spool.) Give about two more turns (the film is now all wound back into the spool chamber).
4. Turn swivel **23** of camera lid **13** towards the left from "closed" to "open" and remove camera lid.
5. Pull out spool chamber by means of the milled knob and keep in aluminium container for developing.
6. The removing of the film from the spool chamber must only be done in the darkroom, as described under B 3, 1. The inner spool with the film is then removed and the film wound off. Lastly the film is torn off along the sharp edge of the slot in the centre spool, when the tapered end can also be drawn out.



## F. The "Standard" (Model E) Leica Camera

The foregoing instructions for the Leica camera Model G apply to the "Standard" Leica also, except where reference is made to the rangefinder and the adjusting dial for the slow speeds.

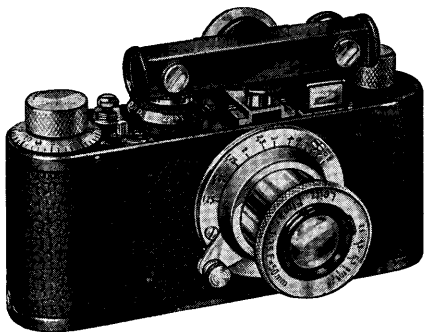


Fig. 19

When it is desired to adjust the time of exposure it is only necessary, in order to obtain access to the speed dial, to push forward the right-hand end of the rangefinder (see Fig. 20), and after the adjustment has been made to return it to its original position as far as the stop.

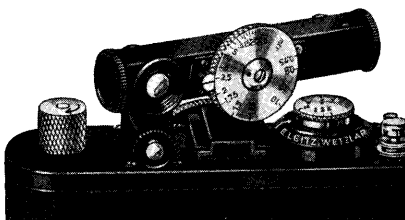


Fig. 20

Now look through the rangefinder and turn the dial until the two images which are visible therein coincide. Read the distance figure, then adjust the index line of the lens focusing mount to this figure, whereupon the exposure may be made.

Adjust the index of the rangefinder as well as the lens mount right away to the desired distance (for instance, 6 ft. in the case of portraits). Then approach or retire from the object until the two images which are visible in the finder coincide.

In the "Standard" Leica, the rangefinder is not coupled with the lens.

In the clamp which will be found near the viewfinder of the "Standard" Leica, a special small holder is inserted, in which the short-base rangefinder is fixed horizontally by means of a pin.

When it is desired to adjust the time of exposure it is only necessary, in order to obtain access to the

speed dial, to push forward the right-hand end of the rangefinder (see Fig. 20), and after the adjustment has been made to return it to its original position as far as the stop.

Now look through the rangefinder and turn the dial until the two images which are visible therein coincide. Read the distance figure, then adjust the index line of the lens focusing mount to this figure, whereupon the exposure may be made.

For shorter distances proceed in the following manner.

It should be mentioned that the rangefinder may also be used in a vertical position. To do this remove the holder from the clamp and insert in the latter the flange which is on the eyepiece side.

When photographing subjects which move rapidly towards or away from the camera, as may often happen in the case of sports events, good results may, under certain circumstances, be obtained by the following method of working: By means of the range-finder measurements are made of the distances of the nearest and furthest points between which the object will be moving while photographs are being taken. Then the lens is so adjusted that those depth of focus markings symmetrically adjoining the distance index mark which correspond with the lens aperture actually in use coincide as nearly as possible with the previously measured distances of the nearest and furthest points. In this way an indication is at the same time given with respect to the largest aperture with which the object will definitely remain within the limits of depth of focus, so that needless stopping down of the lens is avoided. If, for example, it is desired to take a racing car travelling on a road some 16 ft. wide, it will at once be seen that, when working from a viewpoint 26 ft. from the near edge of the road and thus about 42 ft. from the further edge, the Leitz Summar can be used at full aperture, focused on 32 ft., without uncertainty as to whether the car will remain within the limits of depth of focus. Since there is no need to stop down it is made correspondingly easier to work at high shutter speeds.

In similar fashion it is possible, by utilizing the depth of focus to the full, to determine the largest aperture at which an object of given depth can be kept within the depth of field of the lens. If, for example, when taking a church interior it is found that the nearest point which is to be rendered in sharp focus is about 13 ft. away and the furthest about 160 ft., it will be seen that the Leitz Elmar 35 mm. need only be stopped down to F/4.5 and focused on about 22 ft. to give depth of field extending from almost exactly 13 ft. to about 160 ft.

## G. Some additional hints on the use of the Leica

### Leitz Trimming Template

enables the film to be correctly shaped, and its use also results in the saving of film. It is only required if film is cut from a long length, or when the exposed part of a film has been cut off, and the rest is to be reloaded into the camera.

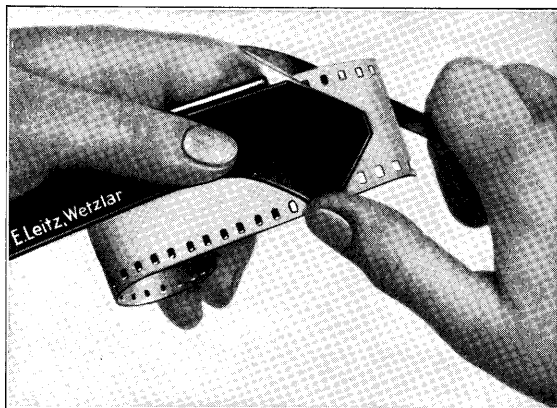


Fig. 21. Film Trimming Template  
(Trimming the film for the centre spool)

When using cut lengths of films as supplied by various firms, special trimming is not necessary. On the other hand, when film strips are cut as required from a long length, care must be taken that the two ends of the film are correctly trimmed, as this is absolutely necessary for the satisfactory working of the film winding mechanism in the camera. For this purpose it is advisable to use our new Trimming Template, which also means a saving in film as compared with earlier models.

At the beginning of the roll of film make the wedge-shaped cut for the centre spool and measure off the required length of film. At the end of this make the curved cut for the receiving

spool. When doing this there is made at the same time the correct cut for the receiving spool on the remaining film on the roll. It is therefore not necessary, as was the case with our previous Trimming Templates, to trim the next length of film taken from the roll, so that in this way about 4 ins. of film are saved on every strip.

The manipulation of the Trimming Template is as follows:

To trim the film for the centre spool, unfold the Trimming Template and insert the film, emulsion side underneath, sideways into the narrow slot of the lower plate, so that the end of the film projects slightly beyond the end of the Template. Then close the Template and cut the film along it (see Fig. 21).

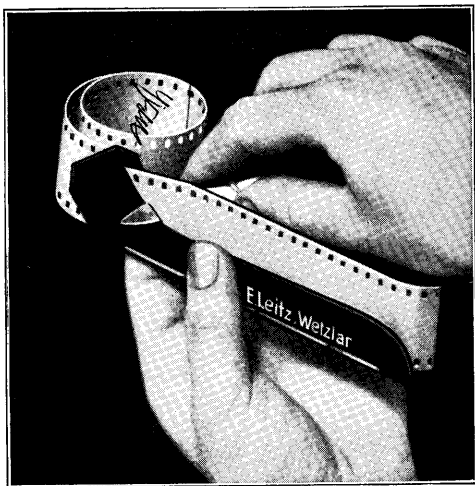


Fig. 22. Trimming Template  
(Trimming the film for the receiving spool)

Except for the end which lies on the lower plate of the Template, the film remains untouched in the hollow of the hand. The end intended for the receiving spool is placed in the unfolded Template, care being taken to see that the emulsion side of the film is again underneath, and that a small piece projects beyond the end of the Template. The two pins in the Template must engage in two perforations, because then

the cut does not pass through a perforation, which might lead to a splitting of the film. Then cut along the curve of the closed Template with a sharp knife (see Fig. 22). When handling the film it must be held only by the edge and any touching of the emulsion must be avoided.

The next piece of film is now ready trimmed for the receiving spool, so that only the cut for the centre spool has to be made at the other end.

**Note.** Careless trimming of the film leads to trouble in the film winding mechanism, so that the perforations are torn and small pieces of film get into and jam the mechanism. As the film winding mechanism is coupled with the shutter, this is likewise affected. The damage can only be remedied by a

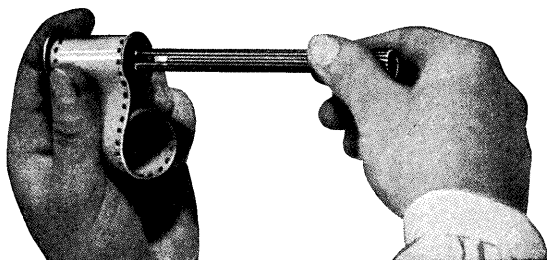


Fig. 23. Hand Film Winder

careful cleaning of the camera mechanism. This entails expense, which can be avoided if the film is correctly trimmed by means of our Trimming Template.

**Spooling the film.** Winding of the film on to the centre spool is made easier by a special metal **Hand Winder**. As shown in Fig. 23, the winder is inserted into the spool, on that side which contains the little cross-pin fitting the slit in the Winder.

The **Mechanical Winder** (Fig. 24) serves the same purpose. This little device is best attached to the edge of a table in the darkroom. To use it, first withdraw the handle of the Winder to its fullest extent, then slip out the spring pressure roll. Now insert the centre spool, with the head of the spool opposite to the handle. When the handle is again inserted as far as possible, it engages in the centre spool, which turns with it. The spring pressure roll is adjustable in the direction of the spool axis, so that it can be slipped into the various spools (the Leica Models E, D, F and G have the same size of spool, while that of the Leica FF is different in accordance

with its film capacity of 33 ft. As regards the Leica FF, see page 28). The beginning of the film is now fixed as instructed in the slit of the centre spool. On turning the handle the film winds itself on to the spool, the spring pressure roll ensuring a uniformly tight winding.

When winding the film on and off care must be taken that no great pressure is put on the film and that the film edges are not squeezed when drawn through the hand. In the former case scratches may easily occur; in the latter so-called

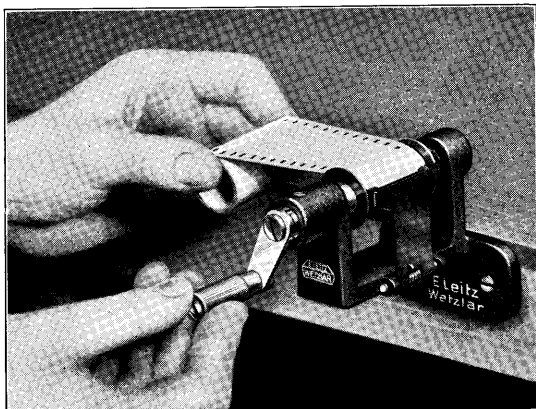


Fig. 24. Mechanical Winder

“lightenings”, i. e. fogging through electric discharges, which extends from the edge of the film into the picture as dark zig-zag lines.

**Winding of film in the Leica.** The advance of the film from picture to picture is obtained simply by turning the winding knob (Fig. 1, No. 1) right round to the stop, without having to watch a film window as with other roll film cameras.

*The evidence that the film is advancing properly is the rotation of the back-winding knob 12 against the direction of the arrow, which must be given particular attention when commencing to photograph.* If the back-winding knob, even after several turns of the winding knob, does not rotate, the reversing lever 6 must be set from A to R, the back-winding knob pulled out (see Fig. 25) and turned in the direction of the

arrow, so that the beginning of the film is wound back into the chamber. Then the spool chamber should be taken out and the film inserted again correctly. If these very important points are correctly followed, no difficulties will be experienced.

It will be observed that the release button revolves when the film is being wound back. At the moment when this button ceases to revolve there remains only a small piece of film projecting from the spool chamber. If one continues to wind back, the whole film disappears into the chamber. This should, of course, not be done if the film is to be replaced in the camera,

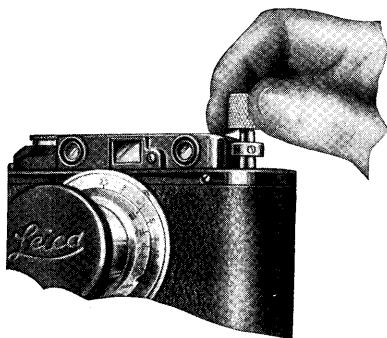


Fig. 25. Extensible back-winding knob

which would not be possible if the beginning of the film did not project from the film chamber.

**The setting of the focal plane shutter**, which is self-capping, is done by winding the knob 1 (Fig. 1) in the direction of the arrow **right up to the stop**. The film is than simultaneously wound on by the correct amount for the next picture.

*Adjustment of the shutter speeds of the Leica Models E and D.* This is done with the shutter wound. The shutter speed dial 7 (Fig. 1) shows the exposure figures, which are fractions of a second (for instance,  $20 = \frac{1}{20}$  second;  $Z = \text{Time}$ ). The dial 7 is lifted and turned so that the index arrow 8 points to the required speed, when it is let go. It is advisable to get used to working with the speeds from  $\frac{1}{60}$  to  $\frac{1}{100}$  second and to regulate the intensity by means of the iris diaphragm. The short speeds, i. e.  $\frac{1}{200}$  and  $\frac{1}{500}$  second, are only required for sports scenes in favourable lighting, and then mostly with full open aperture. For time exposures, which of course cannot be made with the camera in the hand, a short

wire release is used, which screws on to the press button 5 after the protective ring has been unscrewed. If the focal plane shutter is adjusted to Z, it remains open as long as the button 5 or the wire release is pressed down. The camera is equipped with a normal screw thread for fixing to any tripod.

*The shutter speed adjustment of the Leica Model F.* Besides the shutter speed dial 7 as on the Leica Model D (see Fig. 1), the Model F has a second and small dial 7a on the front of the camera near the lens, which can conveniently be read from above.

If the dial 7a is adjusted to 20 ( $1/20$ ), the speeds  $1/20$  to  $1/500$  on the dial 7 may be adjusted as hitherto, namely: First wind the focal plane shutter by turning the winding knob 1 right round to the stop; lift the dial 7 and turn until the index points to the required speed. The exposure can now be made by pressing the button 5 (or the wire release screwed to it).

If the slow speeds  $1/8$ ,  $1/4$ ,  $1/2$ , 1 second are to be used, the speed dial 7 remains set at 20 (engraved "20—1"), while the dial 7a is set to the speed required. The exposure is then made in the usual way.

If it is desired to change from a long exposure to a short one, it is only necessary to adjust the dial 7 accordingly, the position of the dial 7a being of no consequence. *Only at  $1/20$  must both knobs be set at 20.*

The dial 7a further bears the mark "T". If set to this mark (the dial 7 being set to  $1/20$ ) and the shutter wound, the shutter opens on release and remains open. To close it, do not press the release button again, but merely turn the dial 7a back a little (say to 1 or a little further) when the shutter will close immediately.

If the dial 7 is set to Z and the dial 7a to  $1/20$ , the shutter remains open so long as one presses on the release button.

The dial 7a can be turned either way and is limited by stops. The dial 7a can be set before or after adjusting the speed dial 7.

It should be mentioned that all the intermediate speeds between  $1/8$ ,  $1/4$ ,  $1/2$  and 1 second can be set these values being proportionate to the placing of the scale (i. e.  $3/4$  sec. being half way between  $1/2$  and 1).

The engraved exposure times, however, may be accurately set by means of notches. With the Leica Model G, the rapid speed dial 7 is scaled up to  $1/1000$  sec. When setting this speed, the dial 7 does not slip in quite so much as with the other speeds.

It may here be remarked that the Model G is provided with a braking spring which damps down the impact of the blind of the focal-plane shutter. When the Leica is in constant



use the lubrication of the spring is exhausted after some 4000—5000 exposures. This makes itself evident in a tendency of the winding knob to become somewhat harder to turn: the action of the shutter is, however, **not** affected. A trace of oil on the spring, which is at once visible when the lid of the camera is opened, will immediately eliminate this drag in the winding mechanism.

**The release** of the press button 5 must be done gently by resting the middle joint of the index finger on the edge

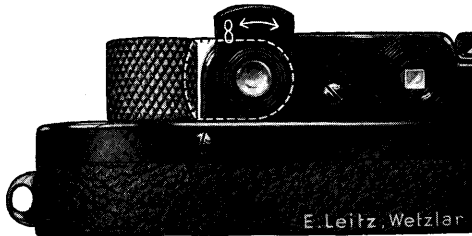


Fig. 26

of the camera and using the first joint as a lever to press the button. The protective ring facilitates this. Releasing from the back would result in jerking. With slow speeds the risk of jerking can be minimized by placing the thumb under the bottomplate of the camera as a support. For the slow snapshot speeds the release button should also be depressed slowly.

**The wire release.** For time exposures our screw-on wire release with fixing screw should be used, which may also be used for instantaneous exposures. When unscrewing this release from the press button, it is advisable to hold the speed dial so as to prevent the shutter from being set accidentally. Should this occur, either partly or entirely, it is only necessary to set the shutter fully by turning the winding knob (always right up to the stop).

With the Leica Models D, F and G the **rangefinder** (together with the viewfinder) is placed horizontally between the shutter speed dial and the back-winding knob. It is automatically coupled with the helical focusing mount of the lens so that the adjustment of the rangefinder and the focusing of the lens are simultaneous. By this the “ever-readiness” of the Leica has been still further increased.

Correct focus is obtained when the two images appearing in the rangefinder (which never disappear from the field of

view, as can happen with a large-base rangefinder) fuse into one (coincidence principle).

In order to increase the ease of measuring still further, the viewing aperture of the rangefinder of the Models F and G Leica is fitted with a magnifying telescope system with a magnification of about 1.5 times. The subjective field of view is therefore increased by about one half, and this considerably facilitates exact and rapid focusing. The eyepiece is adjustable by turning the milled mount, so that everyone can focus near or distant objects to the greatest possible sharpness. Swung up, it is used for distances up to  $3\frac{1}{4}$  ft., swung down, for infinity, and set midway, for distances from about 4 ft. to 15 ft.

**Steady hold.** For slow exposures in the hand it is strongly advised to rest the elbows or at least to lean the body against some support in order to avoid shaking. As the slow speeds are preferably used for near objects,  $\frac{1}{8}$  and  $\frac{1}{4}$  sec. will give surprisingly good results with the free hand, also  $\frac{1}{2}$  sec. with a very steady hand; for 1 sec. however, a support or tripod is necessary.

For convenient focusing, the following procedure should be followed:

#### **For horizontal photographs:**



Fig. 27

Rest camera against cheek, keeping both elbows close to the body — the right hand clasping the camera — the right index finger ready on press button — the left index finger on the button of the focusing lever — the left thumb supporting the camera on the side.

**For upright photographs:**



Fig. 28

**First Method.** Hold camera in right hand from underneath — right thumb stretched over winding knob and resting on press button, thumb must not touch speed dial — right elbow against body — operate focusing lever with index or middle finger of left hand whilst left thumb steadies camera against forehead.

The method as set out above obviates shaking with utmost certainty. Obviously, the thumb must release the press button gently. To hold the camera in this way is particularly convenient when wearing a hat with a broad brim.

**Second Method.** This method is also greatly favoured by many.



Fig. 28a

Right hand on top — right index finger on press button — left index finger actuating focusing lever — left thumb supporting camera.

**The viewfinder** is fitted in the middle of the rangefinder housing. It is a direct-vision finder, and is to be held close to the eye. The field of view gives the exact size of the photographic image at 9—12 ft.; at infinity rather more is on the negative, and at 3—6 ft. rather less. This normal viewfinder is intended for use with the standard lens “Elmar” F/3·5, 50 mm. and the “Summar” F/2, 50 mm. Lenses of other focal length require the use of our Universal Viewfinder, which is slipped into the clip on top of the camera. For particulars of Universal Viewfinders see page 15 part II.

## H. Leica FF

As shown in the illustration, this model differs in form from the Model F only by reason of the larger film chambers.

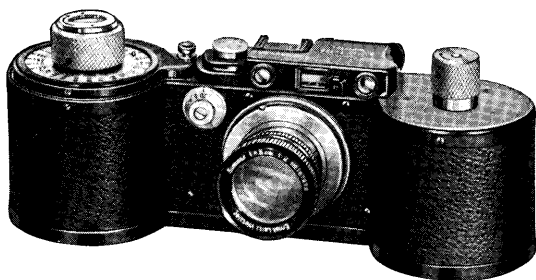


Fig. 29

Each chamber holds a piece of film of 33 ft. length, which is sufficient for rather more than 250 pictures.

The manipulation differs from that of the Model F only in the following points:

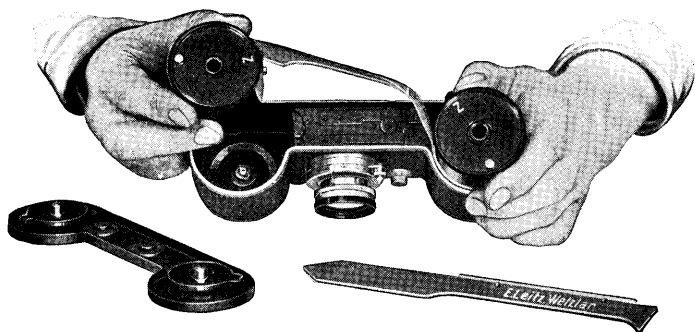


Fig. 30

**Loading the film chambers:** As the Leica FF has a film chamber at both ends, two knobs are provided for locking the base cover plate, which must first of all be opened.

One of the chambers is loaded with film in the darkroom in the usual way, and the projecting piece of film is trimmed with a special template, which conforms with the length of the film track in the camera. The beginning of the film is now fastened under the spring of the second spool chamber, the long uncut edge of the film against the spool disc with knob. This chamber also is then closed in the usual way. The two closed chambers are now placed in the camera, so that the film slips in the narrow guide slots (see Fig. 30). Care must be taken that the knob on the underside of each film chamber snaps into position, by gently turning the chamber. This is easily effected, because the screws which hold the spring closing the chamber have specially high heads, which compel one to insert the chambers in approximately the right position. The base cover plate can only be closed if the two film chambers are correctly placed. When the two locks are closed, the two chambers open together. Finally, the film is tightened by gently turning the back winding knob as well as the milled disc on top of the winding knob in the direction of the arrow.

The film is not wound back after exposure, as this would be too inconvenient on account of the length of the film.

The spool chambers may be changed in a dull light.

If it is desired to take out a piece of film which is not entirely exposed, before opening the base cover plate the film must be slackened a little by turning the above mentioned milled disc in the opposite direction to the arrow. After removing the cover, both chambers may then be taken out or the film may be cut with the cutting knife supplied and the winding-on spool only, which contains the exposed piece of film, taken out. The best way of manipulating the cutting knife is described on p. 20 of part III of this instruction booklet.

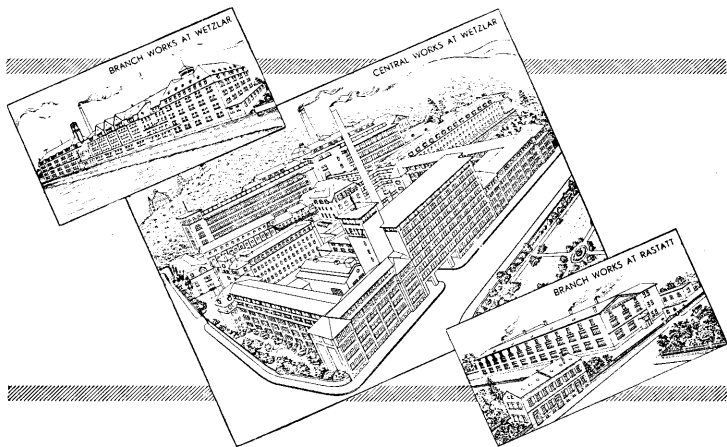
It should be observed that when fastening the film in the chamber, the end should not be doubled over, as otherwise the film cannot come out of the chamber after exposure. Has this been done accidentally, before opening the camera the film must be loosened in the manner described above and both chambers are then removed and the fastened end of the film released.

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Part II of this instruction booklet deals with the use of the interchangeable Leica lenses and the various viewfinders.

Part III is concerned with the different supplementary devices for special photographic purposes and notably with supplementary lenses and filters.



# ERNST LEITZ, WETZLAR

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