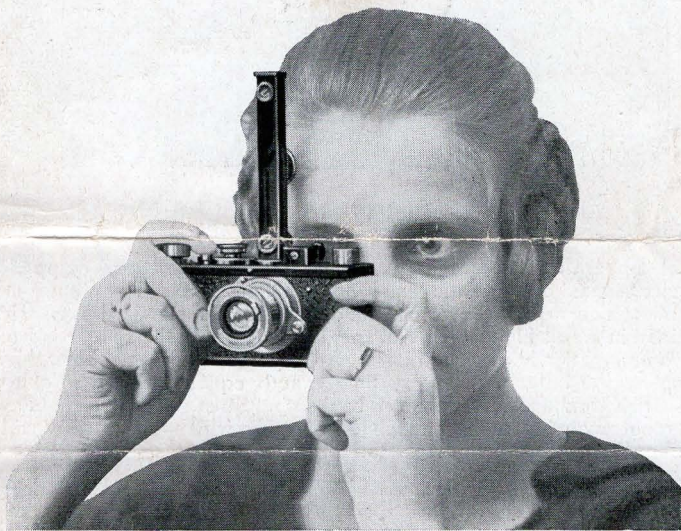


*W.D. Rouse Portland Oregon*

Directions for using  
the

**LEITZ**

'Leica' Roll-film Camera



**ERNST LEITZ**

Optical Works

**WETZLAR**



# LEITZ

## 'Leica' Roll-film Camera

(Patented in Germany)

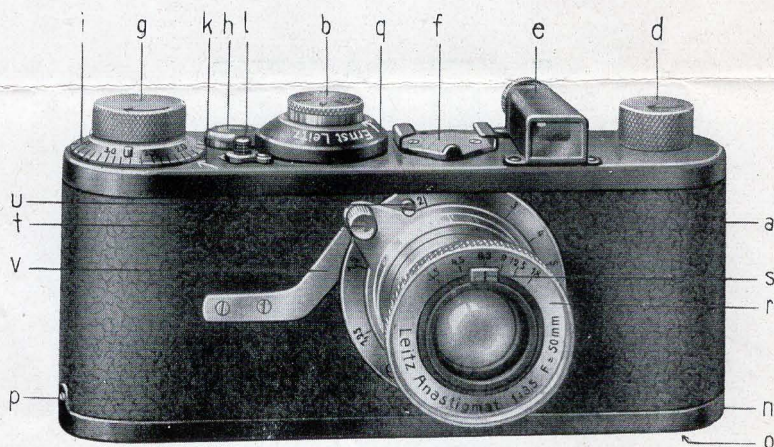


Fig. 1 ( $\frac{2}{3}$  act. size)

This apparatus is a **camera with focal plane shutter** equipped with a rapid Leitz 'Elmax' anastigmatic lens F/3.5 of 50 mm focus. The picture measures 36×24 mm. The camera takes cinematograph films of standard size. The latter is contained in a roll film chamber of special design. As the shutter is wound the film coils automatically past the film window upon a receiving bobbin, the amount taken up by the latter being every time exactly equal to the width of a picture. When the film is exhausted it is spooled back into the film cartridge chamber with the aid of a spool reversing knob. The full length of film which the cartridge will take is 1.60 metre (64 inches) and suffices for thirtysix exposures. Films of any shorter length may, however, be put in.

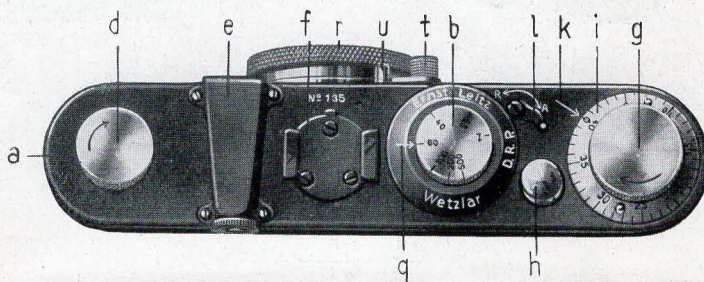


Fig. 2 ( $\frac{2}{3}$  act. size)



Diagram to illustrate the  
operation of putting in  
the film

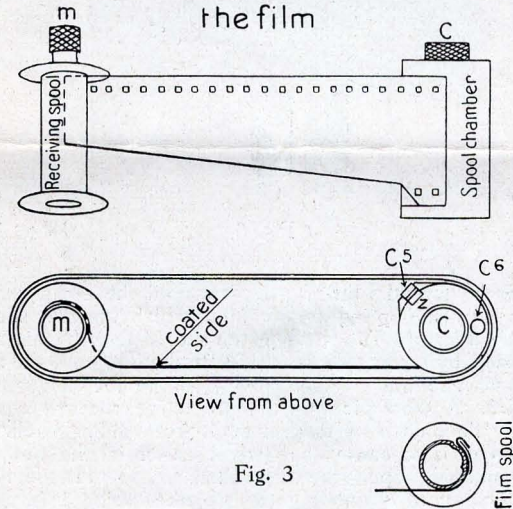


Fig. 3

The focal plane shutter is contained within the middle portion of the camera casing *a* (Figs. 1 and 2), which is made of light metal and rounded at the ends. The shutter winds under cover, it runs immediately in front of the film window, and has a slit setting knob *b*, which can be actuated from without.

The spool chamber *c* (Fig. 3) is situated at the side of the shutter frame. This roll film spool chamber, as shown in Fig. 4, consists of an outer spool holder *c*<sup>1</sup>, an inner cartridge *c*<sup>2</sup> and the film spool *c*<sup>3</sup>. The latter is fitted with a spring *c*<sup>4</sup>, under which the tapering end of the film is passed through in the direction of the arrow (Fig. 4), and the protruding end of  $\frac{3}{16}$  inch at most should be doubled over at a sharp angle (Fig. 5). After winding the spool this should be slipped into the cartridge (Fig. 6), the latter then is put into the outer spool holder *c*<sup>2</sup>, with both slit openings in like position, as shown in Fig. 7. A spring catch *c*<sup>5</sup> (Fig. 4) prevents the inner cartridge from slipping out. The knurled

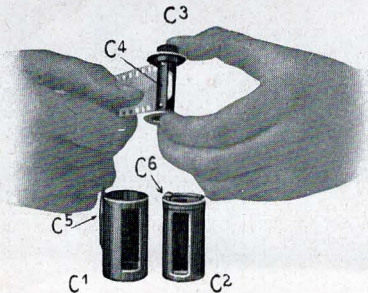


Fig. 4



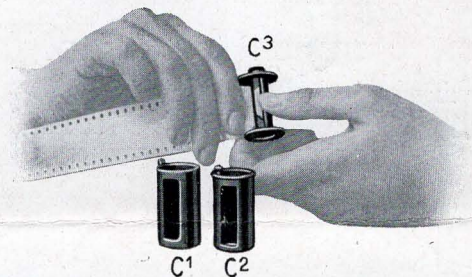


Fig. 5

knob should now be turned a little to the left until the commencing end of the film is pushed out by the spring action, after which the film should be drawn out an inch or so (Fig. 8). The spring catch should then be disengaged and the film chamber closed by turning the cartridge to the left, until the spring engages, as shown in Fig. 9. The film will then move from the film chamber in the manner indicated in Fig. 3. A short piece of the projecting external portion of the film should be sharply doubled over to prevent it from sliding back. The object of the projecting pin  $c^6$  is to cause the swivel catch in the act of closing the camera to automatically open the film chamber, so that the film may travel fully exposed. The spool chamber goes into the casing in a certain position only (Fig. 3). The return button  $d$  (Fig. 2) serves to wind the film back (in the direction of the arrow).

At the side of this is the **View-Finder**  $e$  (Fig. 2), which is used immediately in front of the eye. Next to it is the fixing clamp  $f$  for the short range finder „Fodis“. (The latter need not be used unless the object is within ten yards). Its use is explained in a separate leaflet.

**The shutter** is wound and the film advanced at the same time by means of the winding knob  $g$  (Fig. 2). The rotation of the reversing button  $d$  in the reverse direction to the arrow indicates that the film is rightly advancing while the shutter is being wound. When it has advanced through the width of a picture the motion of the film is checked by a stop, which is not again released until an exposure has been made by the depression of the press button. The pressure on the latter should not be applied jerkingly but slowly, the finger being steadied, as shown on the front page.

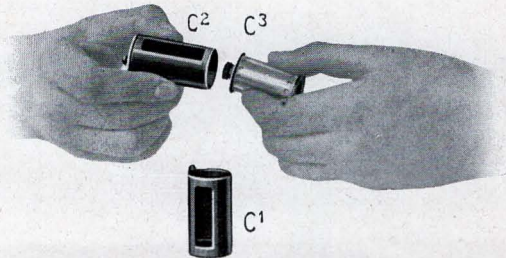


Fig. 6



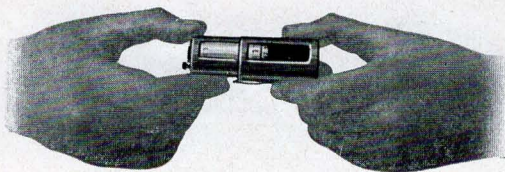


Fig. 7

Under the winding knob will be seen the **counting disk** *i* (Fig. 2), which may be turned into any position by means of two projecting lugs and which should be set to  $\frac{40}{0}$  when commencing to expose. The arrow *k* serves as an index. Every time that the apparatus is wound the divisions on the counting disk advance one interval. Normally the pointer *l* is at A.

The winding spindle within the casing bears the **winding spool** *m* (Fig. 3), which is removable. The latter is fitted with a spring *m'* which clips the commencing end of the film (Fig. 10). The end of the film should be cut to taper 4 inches from the end to half its full width at the end, as shown in Fig. 3. Care should be taken not to cut through any sprocket hole in the film. It is then clipped between the arrow and the spool flange facing the knurled knob (Fig. 10). The winding spool and the film chamber with the film cartridge are introduced jointly into the camera (Fig. 11).

The winding spool *m* (which may be identified by its smaller knurled knob) fits upon the winding spindle only, while the film spool *c*<sup>3</sup> goes only into the film spool chamber.

When **closing the camera**, its cover *n* should be taken up, the swivel *o* set to 'open', ('auf') the drilled lug slipped upon the pin *p* (Fig. 12), the cover closed down, which causes the swivel lock to set itself round the film holder pin *c*<sup>6</sup>, after which the swivel should be set from 'open' ('auf') to 'shut' ('zu'). It is advisable, after putting in the film, to turn the reversing button *d* a little in the direction of the arrow, until the film is felt to be taut.

**The slit** should preferably be set after winding. In this position the arrow *q* (Fig. 2) gives the correct exposure numbers. The latter read fractions of a second (e. g. '25' reads  $\frac{1}{25}$  second), while *Z* stands for time. The width of the slit is set by drawing forward the knob *b*, turning the desired number upon the pointer, and then allowing the knob to recede under its spring pressure. It is a good plan to familiarise oneself with the camera at a speed of  $\frac{1}{25}$  second and to regulate the intensity with the diaphragm. Short exposures, such as  $\frac{1}{200}$  and  $\frac{1}{500}$  second, are only needed for taking rapidly moving objects in a good light, and in these the full aperture should naturally be given.

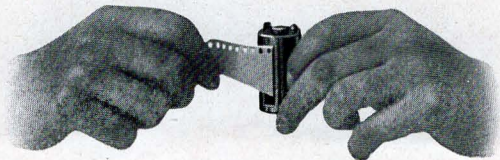


Fig. 8



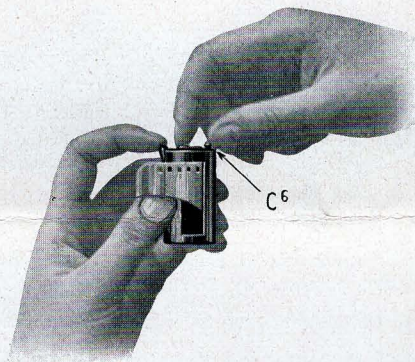


Fig. 9

The **lens mount *r*** (Figs. 1 and 2) is on one side of the camera casing. It may be readily withdrawn and locked by its rotation to the right. When withdrawing it, it should be noted that the index line on the mount should roughly coincide with one of the three short index lines.

The **diaphragm** is actuated solely by the lug *s* (Fig. 1). The rapidities can be read off. The relative times of exposure at different aperture ratios are as follows:

Relative rapidity: F	3.5	4.5	6.3	9	12.5	18
Relative time of exposure:	1.6	2	4	8	16	32

**Focussing to distance** is obtained by turning the mount by the handle *t* (Fig. 1), the distance being shown by an index. The range of the motion is determined by a limit stop *u*. The handle *t* is held in the infinity position ( $\infty$ ) by a spring catch *v* and prevents any unintentional departure from this position. The spring catch is only released when photographing near objects, the lens handle being then disengaged for setting for distances within 10 yards.

When a sufficient number of exposures have been made or when the film is exhausted (which shows itself by the winding action refusing to yield) the film should be **wound back**. To this end the index *l* should be set to *R* (Fig. 2). This releases the coupling of the shutter mechanism, so that the film is free to roll back. When the film has been rolled back the index *l* should be returned to *A*. While rolling back, a continuous pressure should be applied to the press button *h*.

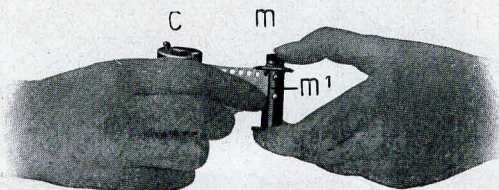
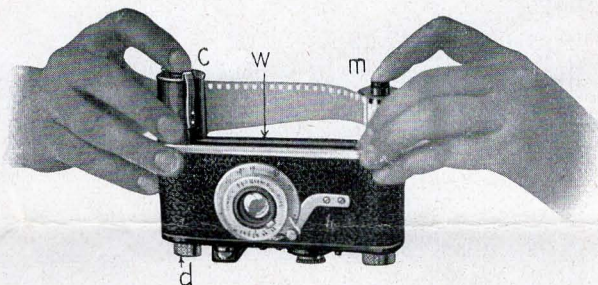


Fig. 10





right Hand

Fig. 11

left Hand

## Summary of Directions.

1. **Wind film into film holder (in dark room).** Figs. 3 to 9. Pass pointed film end through spring  $c^4$  (coating on inside), double back the end, wind on, slip into cartridge  $c^2$ , slip both into cartridge holder  $c^1$ , draw film end out about an inch, turn cartridge  $c^2$  to left up to catch index Z (Fig. 3), turn down beginning portion of film.

2. **Put film holder in camera (Daylight).** — Figs. 10 to 12. Take out spool  $m$ , clip film end under spring  $m^1$  in direction of arrow between arrow and knurled knob, draw out about 4 inches, insert film holder with right hand, spool with left hand into slit  $w$  (if film holder comes to a stop prematurely give slight turn to knob  $d$ ). Set spring catch  $c^5$  to Z, swivel  $o$  to 'open', ('auf') hook cover upon pin  $p$ , shut down, set swivel  $o$  to 'shut' ('zu'). Set index  $l$  (Fig. 2) to A, wind knob  $g$  twice and depress (to advance useless film end), turn to left counting disk  $i$  and set to 0.

3. **Exposure.** Pull out lens, lock by turning to the right, set diaphragm (with near objects likewise distance scale and short range finder), turn button  $g$  in the direction of arrow up to stop, verify or set slit number, compose picture with view finder  $e$ , operate press button  $h$  (slowly, see title page).

4. **Take out film (Daylight).** Figs. 1 to 3. Turn  $l$  to R, keep  $h$  pressed down, turn  $d$  till checked, overwind (which causes the film end to be released from the spool slit) and give five further turns, set swivel to 'open', open cover  $n$  (spring  $c^5$  should engage at Z), draw out the film holder  $c$  by the knurled knob.

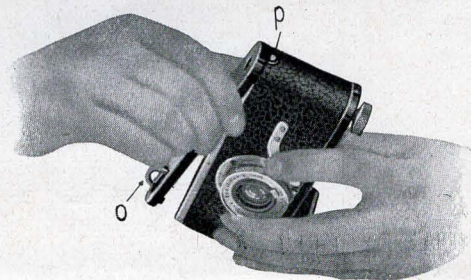


Fig. 12