

LEITZ

“Fodis”

Photographic Near Range Finder

ERNST LEITZ

OPTICAL WORKS

WETZLAR

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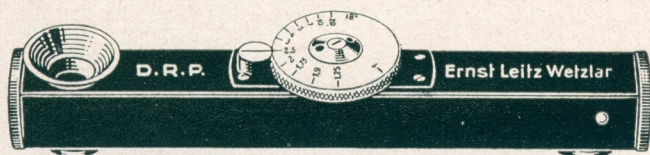


Fig. 1 ($\frac{4}{5}$ act. size)

Leitz "Fodis" Photographic Near Range Finder

This instrument, when fitted to an ordinary camera, imparts to the latter some of the advantages of a reflex camera. It enables the camera lens to be rapidly focussed without uncertainty and with a degree of accuracy which is usually attainable only by focussing with a magnifier on the glass screen of the camera. The Near Range Finder is constructed on the principle of "coincidence". It is in the form of a rectangular tube, one end of which is furnished with an eye cup giving view upon a mirror bored at the centre and set at an angle of 45° . At the other end the tube contains a prism which can be turned on its pivots with the aid of a milled head furnished with a graduation. When this scale is set to ∞ an eye applied to the eye cup will see in the field of view a small bright circle, and within it the image of near objects will be seen double. Perfect fusion of the image of a near object should be restored by turning the milled head, after which the distance of the sighted object may be read off on the scale. A yellow disc serves to colour one of the images, which renders it easier to set the images to coincidence owing to the contrast thereby obtained. The best plan is to attach the near range finder to the camera, which may be done without difficulty, as it is only about 4 inches long (Fig. 1). Each of the little instruments is provided with a fixing clamp for attachment to the camera. The instrument is dustproof and watertight and is supplied in a small solid leather case.

We would point out that this camera range finder is naturally not intended to measure short distances accurately within a fraction of an inch. It is mainly a photographic device. The object which it fulfils is to furnish a small and handy focussing instrument giving sufficiently accurate readings for photographic needs, its short base notwithstanding. In the process of adjusting and verifying the instrument any small differences in the readings which may arise are in no case permitted to exceed the depth of definition of the objective. In this sense near range finders whose errors do not exceed $\pm 1"$ at 2 yards, $\pm 6\frac{1}{2}"$ at 5 yards, $\pm 27"$ at 10 yards, ± 9 feet at 20 yards are as accurate as there is any need for them to be in view of the depth of definition possessed by the lenses.

For the optical effect it is immaterial whether the near range finder is employed in a horizontal or vertical position.

In practice the following two cases will arise:

1. **It is required to take a photograph from a predetermined standpoint.** Establish perfect coincidence of the double image of that part of the object which is to appear most sharply defined in the picture. Read the distance, set the lens focussing scale to this

distance, and give exposure. During this process the range finder may serve as a view finder. The small bright circle in the field of view of the near range finder operates then as an optical sight, so that it is only necessary to keep it centrally in the middle of the field.

2. **It is required to take the photograph from a stated distance.** In this case set the Index on the range finder and that on the camera scale to the required distance. Using the range finder as a view finder, approach the object or recede from it until the double images fuse into one. This second case furnishes a particularly rapid and convenient method.

For use with cinematographic cameras we make a near range finder of a special form (Fig. 2). The graduated head is then larger and is more extensively graduated with finer subdivisions, as will be seen from the illustration. In view of the fact that the cinematographic cameras have mostly a length of about 10 inches, while the range finder attaches to the rear edge of the camera, it was necessary to so arrange the scale as to bring it into agreement with the lens focussing scale. When the near range finder is used independently of the cinematograph camera 10 inches should therefore be added to the reading obtained with the instrument. This is indicated by the inscription "+ 10 in".

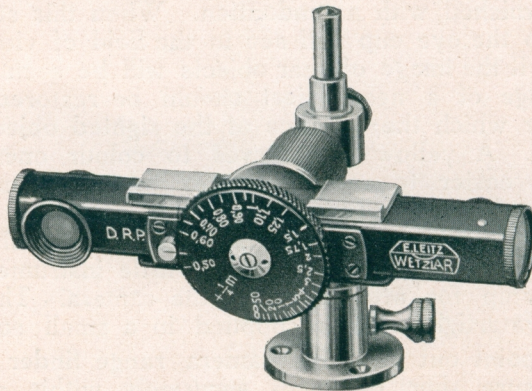


Fig. 2 (²/₃ act size)

For mounting the near range finder upon the cinematograph camera we recommend the holder shown in Fig. 2, which admits of the range finder being adjusted in height and of being inclined in all directions by means of a ball-and-socket joint. This has proved a most desirable feature in cinematograph operations. The range finder as well as the upright pillar of the holder are detachable.

Prices

	Prices	Code Words
No. 1. Leitz Near Range Finder		
for hand cameras, with fixing clamp	\$11.00	Fodis
No. 1 K. Ditto for Cinematograph Cameras	15.50	Fokin
No. 1 H. Adjustable Holder for ditto	8.00	Fokux

Note: The price of the Leitz Near Range Finder No. 1, Code Word: "Fodis" has been reduced to **\$10.00**.