ZEISS IKON

Instructions for using the

BOX-TENGOR

No. 54:
$2\frac{5}{16} \times 1\frac{3}{4}$ inches (4.5×6 cm) for Rollfilm B II 8

No. 54/2:
$3\frac{1}{4} \times 2\frac{1}{4}$ inches (6×9 cm) for Rollfilm B II 8

No. 54/15:
$4\frac{1}{4} \times 2\frac{1}{2}$ inches (6.5×11 cm) for Rollfilm D 8

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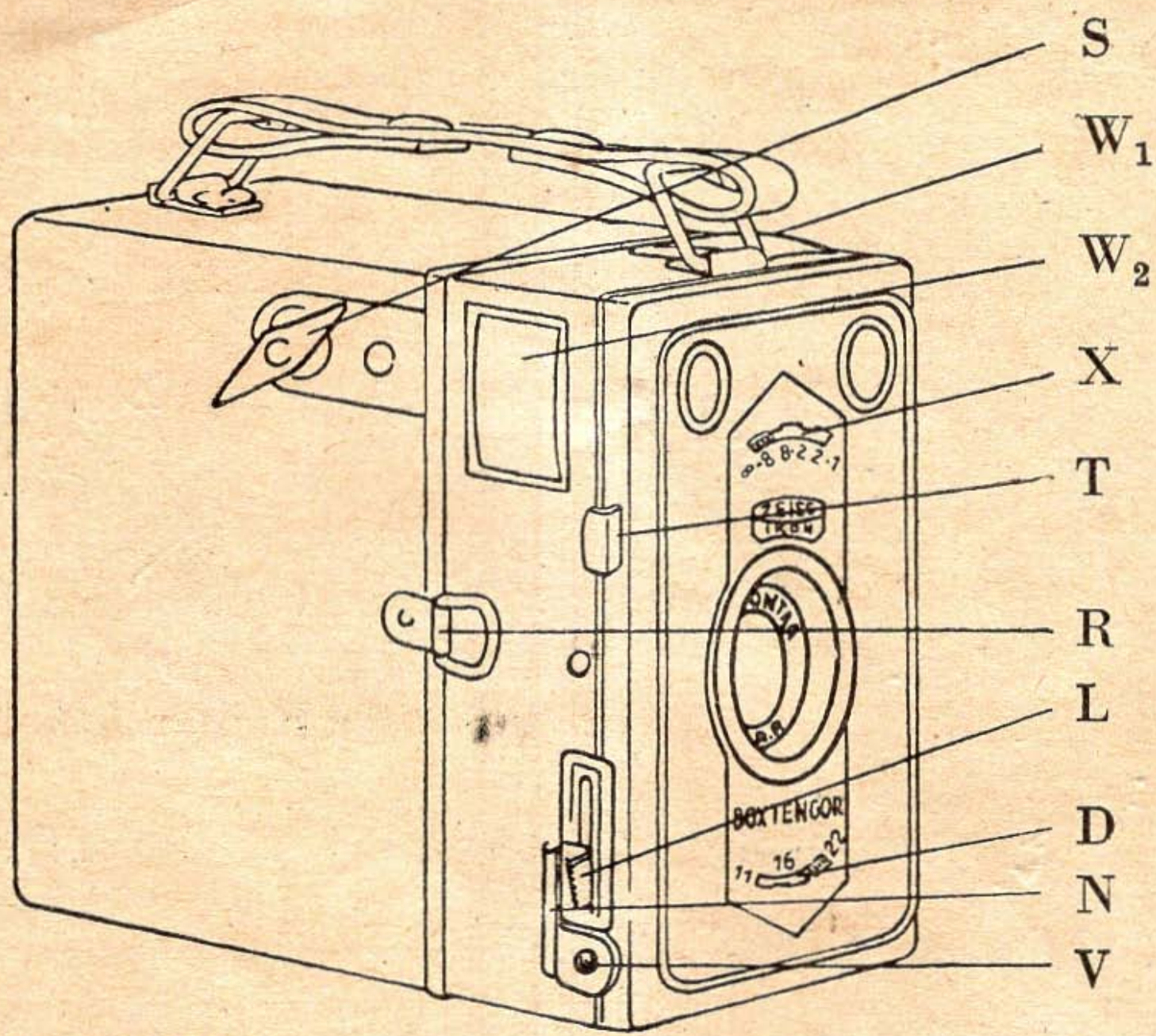

Fig. 1 Box-Tengor $3\frac{1}{4} \times 2\frac{1}{4}''$ (6 × 9 cm)

Before using a Box-Tengor Camera, which is of remarkably simple construction, try out all manipulations mentioned in these lines before loading. Failure with the first photographs will then be avoided.

D = Lever for setting the diaphragms
L = Releasing lever
N = Catch for locking the shutter release
R = Catch to lock the two parts of the camera body
S = Film winding key
T = Slide for time exposures
V = Screw nut for the cable release
$W_1 W_2$ = Finder
X = Supplementary lens attachment

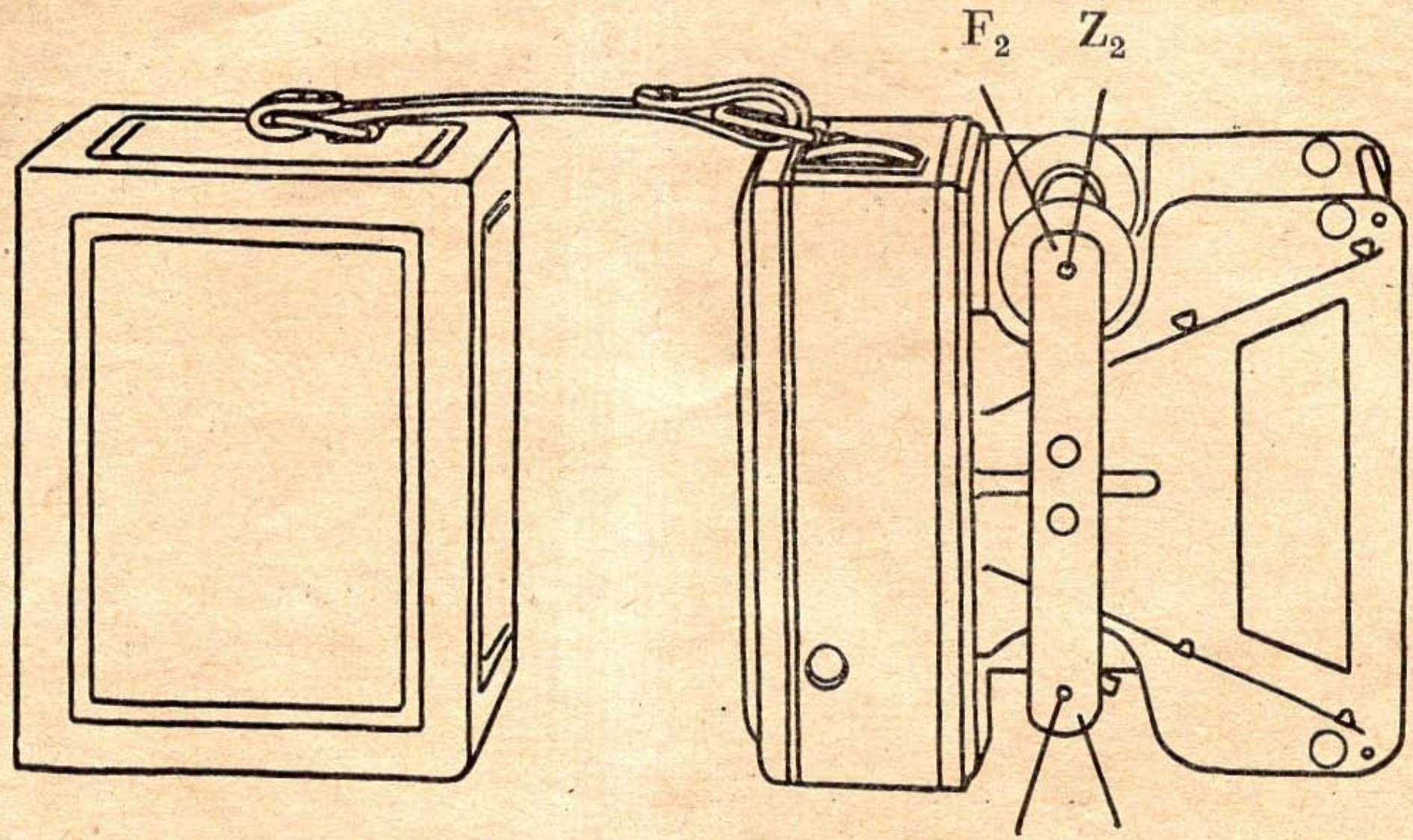

Fig. 2 Box-Tengor in two parts

F_1 F_2 = Springs with plugs Z_1 and Z_2, on which the spools are placed
Z_1 Z_2 = Plugs on which the spools are placed

Fig. 3

Loading of the Box-Tengor Cameras

Pull bolt R (fig. 1) outward whereupon the camera can be easily separated in two parts (fig. 2). In the $2^{5}/_{16} \times 1^{3}/_{4}''$ and $4^{1}/_{4} \times 2^{1}/_{2}''$ cameras, both parts are held together by the carrying strap, but this does not render the insertion of the films more difficult. The spool shaft is hollowed at both ends so that it can be readily attached to the spool plugs in the spool bearings. An empty spool will be found in the upper spool bearing; when changing spools subsequently proceed as follows:

One end of the spool shaft is slotted (fig. 3), the other has a round hole.

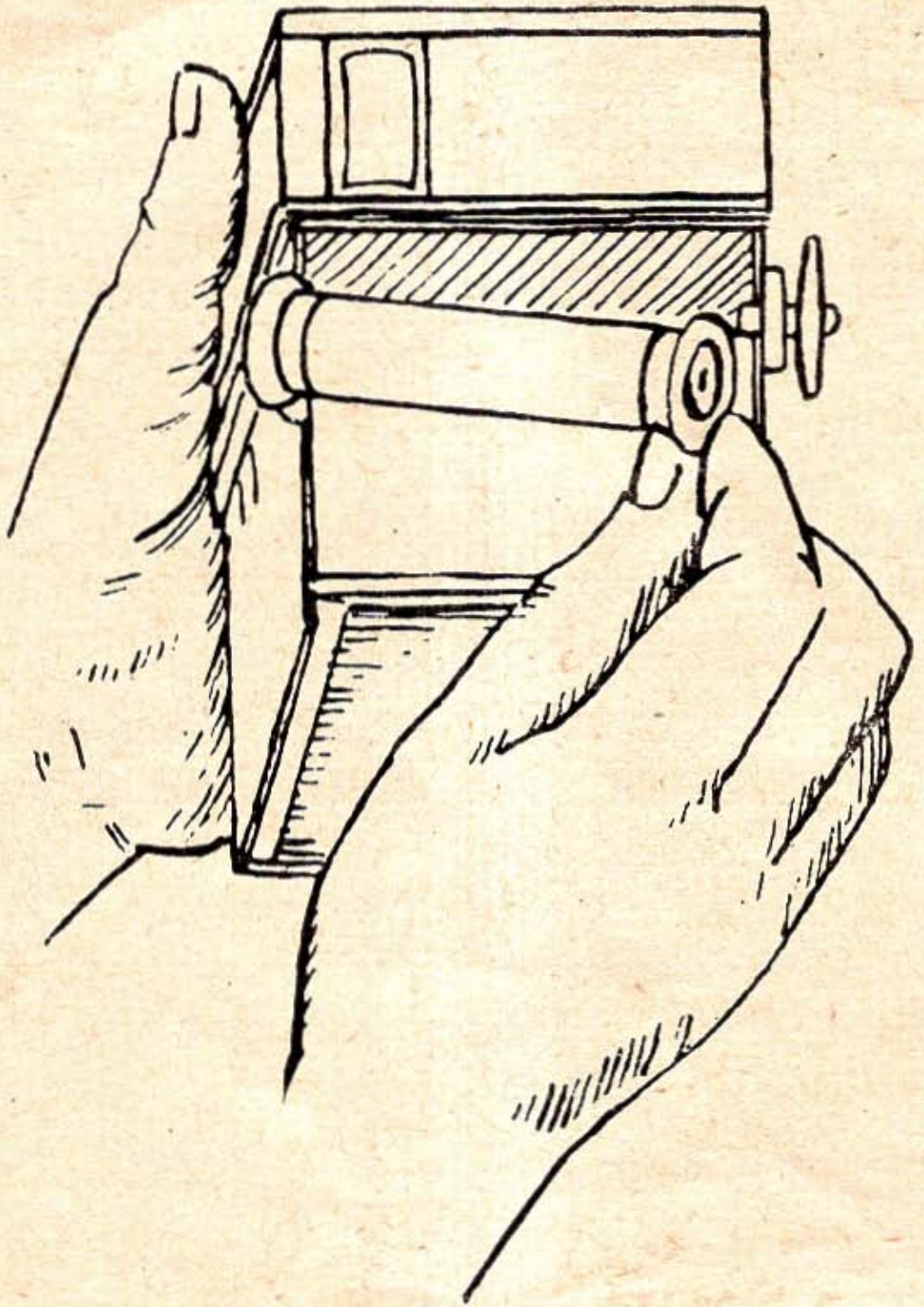

Fig. 4 Inserting the empty spool

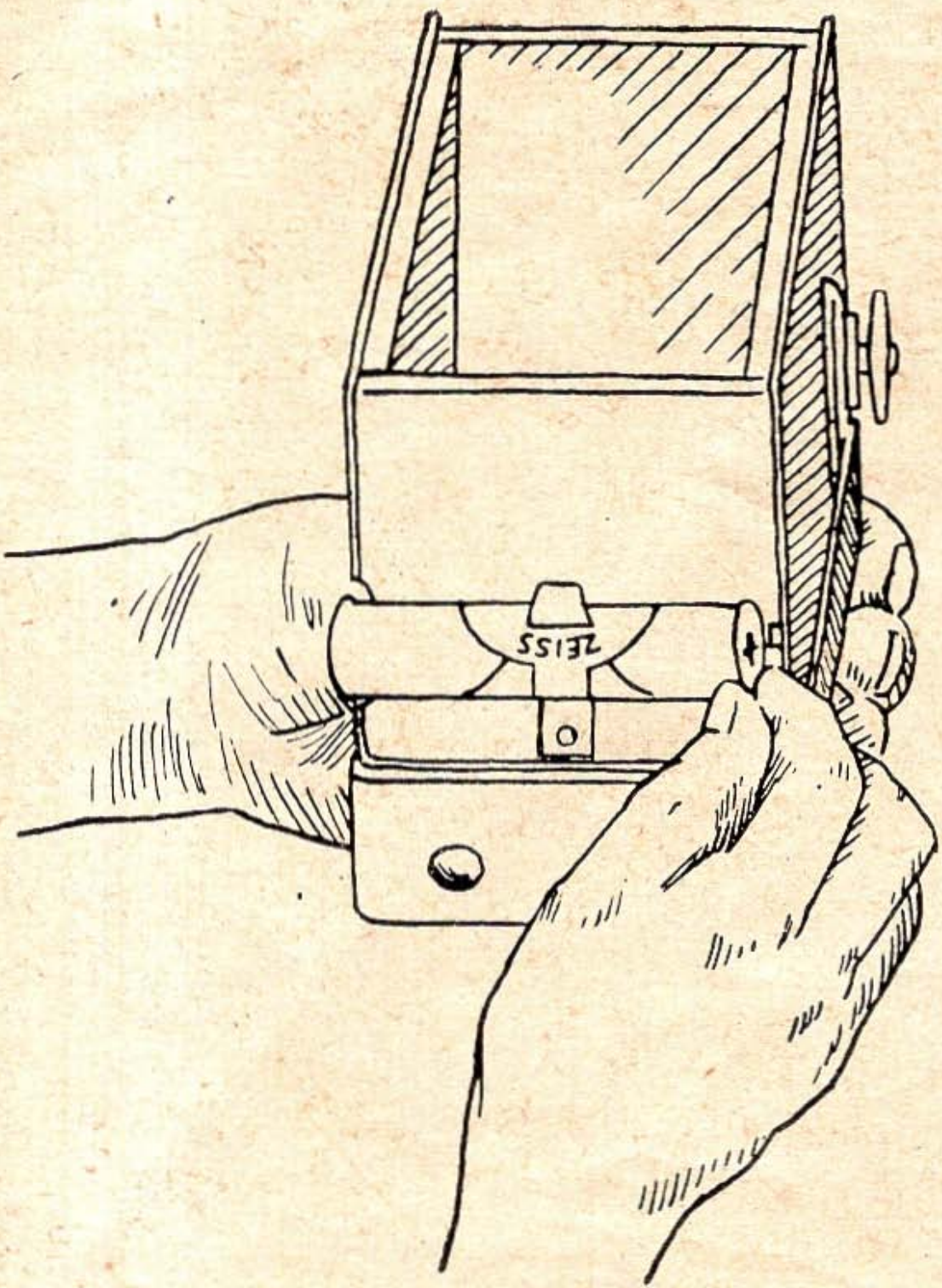

Fig. 5 Inserting the full spool

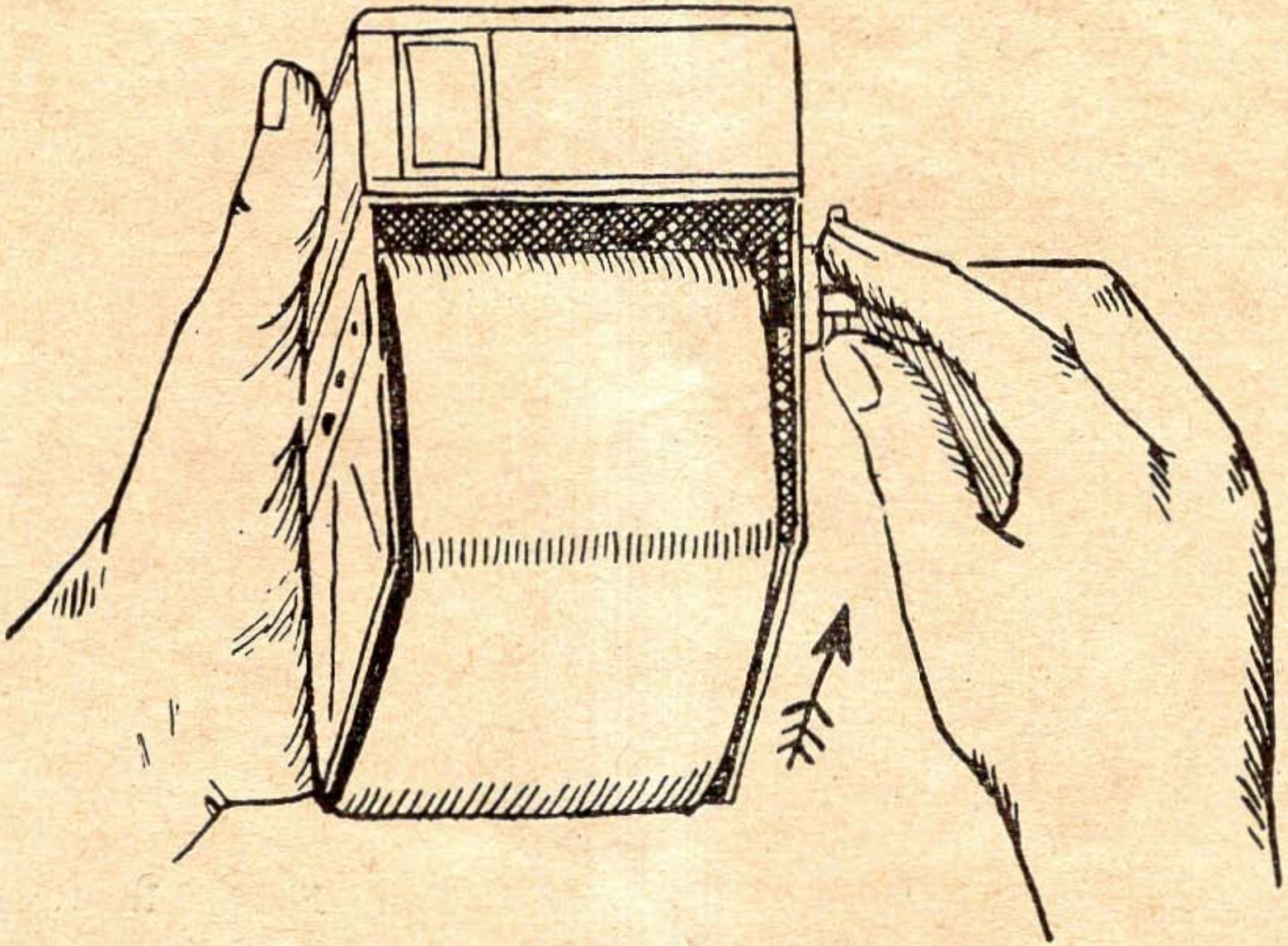

Fig. 6 Attaching the paper end upon the empty spool

With your right hand seize the empty spool at the slotted end and place it on plug Z_2. Press spring F_2 aside, guide the slotted end of the spool past the key and attach it to the key-plug. By turning the key, the pin passing through the key-plug will engage the slot of the spool shaft and make the spool turn with the key. Insert the full spool in the other bearing so that the end of the film is on top pointing towards the guide roll (fig.5).

The spool is placed upon the plug Z_1, the spring F_1 pushed aside far enough to allow free passage for the other end past the righthand solid plug, till the pin engages the hole in the spool shaft (fig. 5).

Loosen the end of the covering paper, draw it over the two small rolls and insert it in the long slit of the empty spool. Then turn the key two or three times in the direction of the arrow so as to connect the covering strip firmly with the empty spool.

The Shutter

Below the shutter release L (see fig. 1) a catch N has been provided for the purpose of locking the shutter to avoid unintentional exposures when the camera is not in use.

To take **snapshots** a pressure on lever L opens and almost instantaneously closes the shutter. After downward pressure release the lever; it will automatically return to its original position.

For **time exposures** pull out slide T. A pressure on lever L opens the shutter. When this pressure ceases, the shutter closes.

For **flash-light photographs,** or when it is desired to take long time exposures, draw out slide T, and after pressing down the lever L, secure same by pushing in the catch N. The shutter may also be operated by means of a wire release inserted in the bush V.

Supplementary lenses

The Box-Tengor Cameras have built-in supplementary lenses. By setting the lever X on one of the figures corresponding to the distance between camera and object, the requisite attachment is brought behind the camera lens. The various models can be regulated as follows:

No. 54: 3—10′, 10′—∞ (infinity),
No. 54/2: 3— 6′, 6—20′, 20′—∞,
No. 54/15: 6—12′, 12—30′, 30′—∞.

With the lever X correctly set, all objects lying within these limits will therefore be sharply defined.

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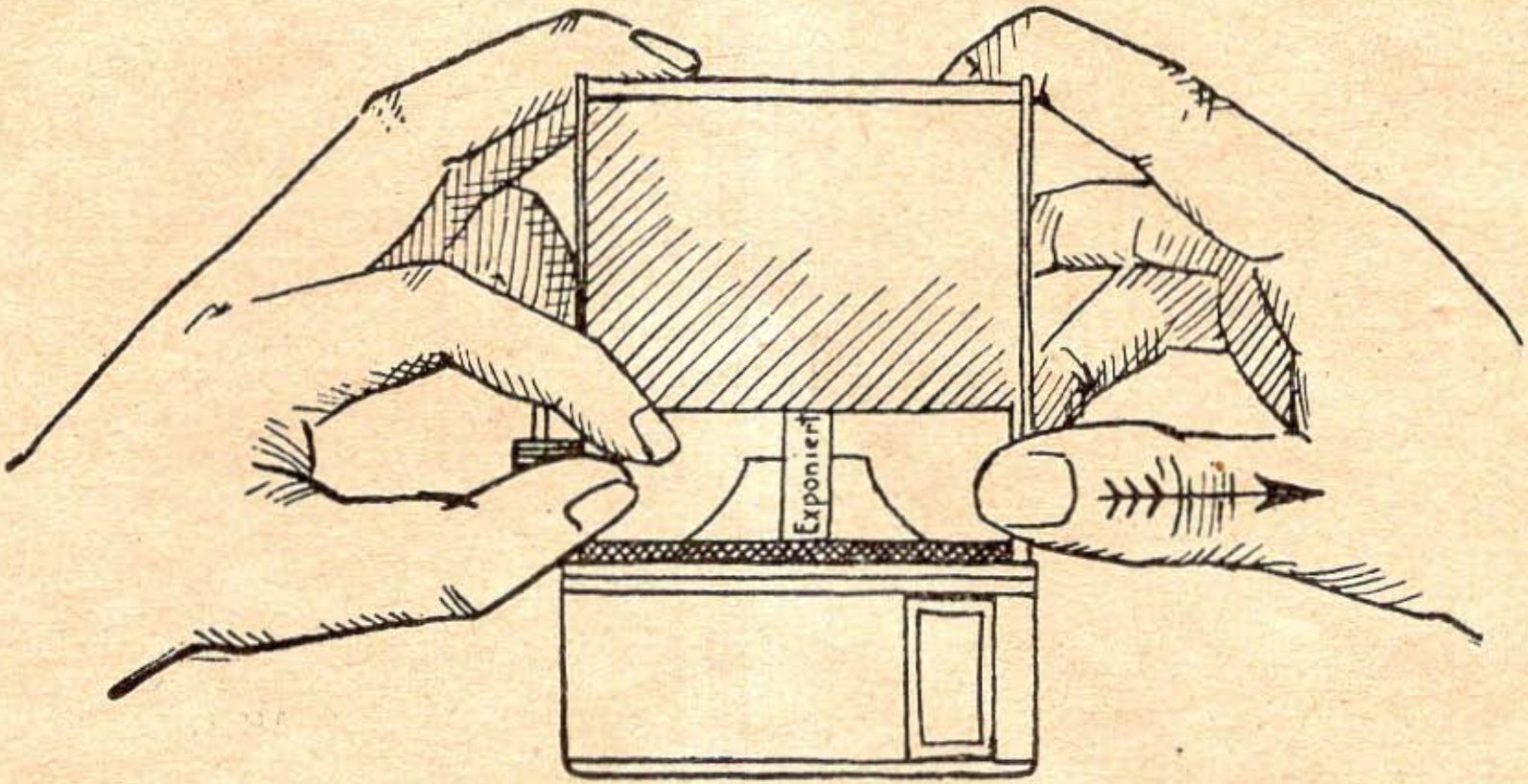

Fig. 7 Removing the exposed spool

Diaphragms (Stops)

Under the lens is the diaphragm scale. The Diaphragms of model 54 are f/11 and f/22, and with the models 54/2 and 54/15 f/11, f/16 and f/22.

Set the lever D on to one of the given stops, namely 11, 16 or 22. The larger the number, the smaller will the aperture be, whilst the picture will consequently be sharper; the smaller the aperture, the longer must be the time of exposure.

Removing the Exposed Spool

After the last exposure wind up the paper strip completely by turning the key, take the camera apart as described on page 3 and fasten the end of the paper to the spool by means of the gummed label attached to the end of the strip.

Remove the exposed spool (fig. 7) by pulling it towards the spring actuated spool bearer, exerting at the same time with the other hand a slight pressure on the other end of the spool to prevent it from being jerked away.

Remove the empty spool as well, insert it in the key bearing, and the camera will be ready to receive a new film spool.

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GENERAL OBSERVATIONS

About the treatment of the camera

As a camera is not a worthless toy it should be treated with care and not exposed to rain or left on wet grass, etc., but kept in its leather case in a place where it cannot be damaged. The care you devote to it will have a good effect upon the film, the lens, and, above all, the picture.

Which film to be used

Box-Tengor uses Roll-Film for taking pictures. Always ask for Zeiss Ikon Roll-Film B II 8 or D 8 which will produce excellent pictures if properly handled. The highest sensitive Zeiss Ikon Ortho Ultra Film (23 ° Scheiner!) is particularly recommended for use when

lighting conditions are not too good. The reason for using the same film for $2^5/_{16} \times 1^3/_4''$ as for $3^1/_4 \times 2^1/_2''$ is explained by the fact that every section of the $3^1/_4 \times 2^1/_2''$ film gives two pictures of the size $2^5/_{16} \times 1^3/_4''$. In this way 16 photos are obtained on one spool. The sealed filmspools are light-tight and can be put in the camera and taken out again in broad daylight, though it is not advisable to expose the spool to glaring light. Better keep it in a dark place (cupboard, etc.) at medium temperature and insert it in the camera when the light is somewhat subdued.

The exposure times

Snapshots at a speed of $^1/_{25}$ of a second should be made preferably when the sun shines, i. e., the object to be taken must be illuminated by the sun, though the rays should not reach the lens. Aim the camera on the object to be photographed and make sure

that the whole object appears in the finder. After adjusting the camera, move the lever of the shutter carefully without jarring the camera, which should be pressed firmly against the body and held perfectly level without tilting, or unsharp pictures will result.
Immediately after exposure turn the key till the next unexposed film section is in working position. This is indicated by the appearance of the following number in the red window at the back of the camera.
The $2^{5}/_{16} \times 1^{3}/_{4}''$ camera has two red observation windows at the back. The numbers of the B II 8 film must appear once at the lower window and once at the top; every picture is exposed on only one half of the full film section.

Time exposures

To make a time exposure pull out the slide T and adjust the stop by the lever D unless you wish to work at full aperture (Portrait). When taking portraits,

the face should be well illuminated while the lens should never be held direct in the source of light. Place the camera on a fixed support (stand, table, post, etc.) while carefully moving the lever.
The camera is provided with two bushes so that it can be screwed to a stand for vertical as well as for horizontal exposures. The two bushes have english thread. When using tripods with continental screw an adapter No. 1628/3 must be fitted. — After making a time exposure, set the camera at once to "instantaneous" by pushing back the slide (T).

The focussing

As a general rule leave the lens set at infinity (∞). The focal depth of the different cameras will then reach to the following distances: 10 feet ($2^5/_{16} \times 1^3/_4''$), 20 feet ($3^1/_4 \times 2^1/_2''$), and 30 feet ($4^1/_4 \times 2^1/_2''$). For closer distances see instructions on supplementary lenses (page 11).

The exposure time

Generally speaking, snapshots taken out-doors will turn out good. — When the lighting is bad, time exposures will be necessary, as well for landscapes as for groups and portraits.

The Zeiss Ikon exposure table will show the correct exposure time under all circumstances. For indoor exposures of persons use always the largest stop, the length of exposure depending on the lighting conditions of the room (size and number of windows, colour of wall paper) and the intensity of the outdoor light. Use the exposure table or the Zeiss Ikon exposure meter "Diaphot", whenever you can.

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Always use

ZEISS IKON FILM

The film to give excellent results!

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