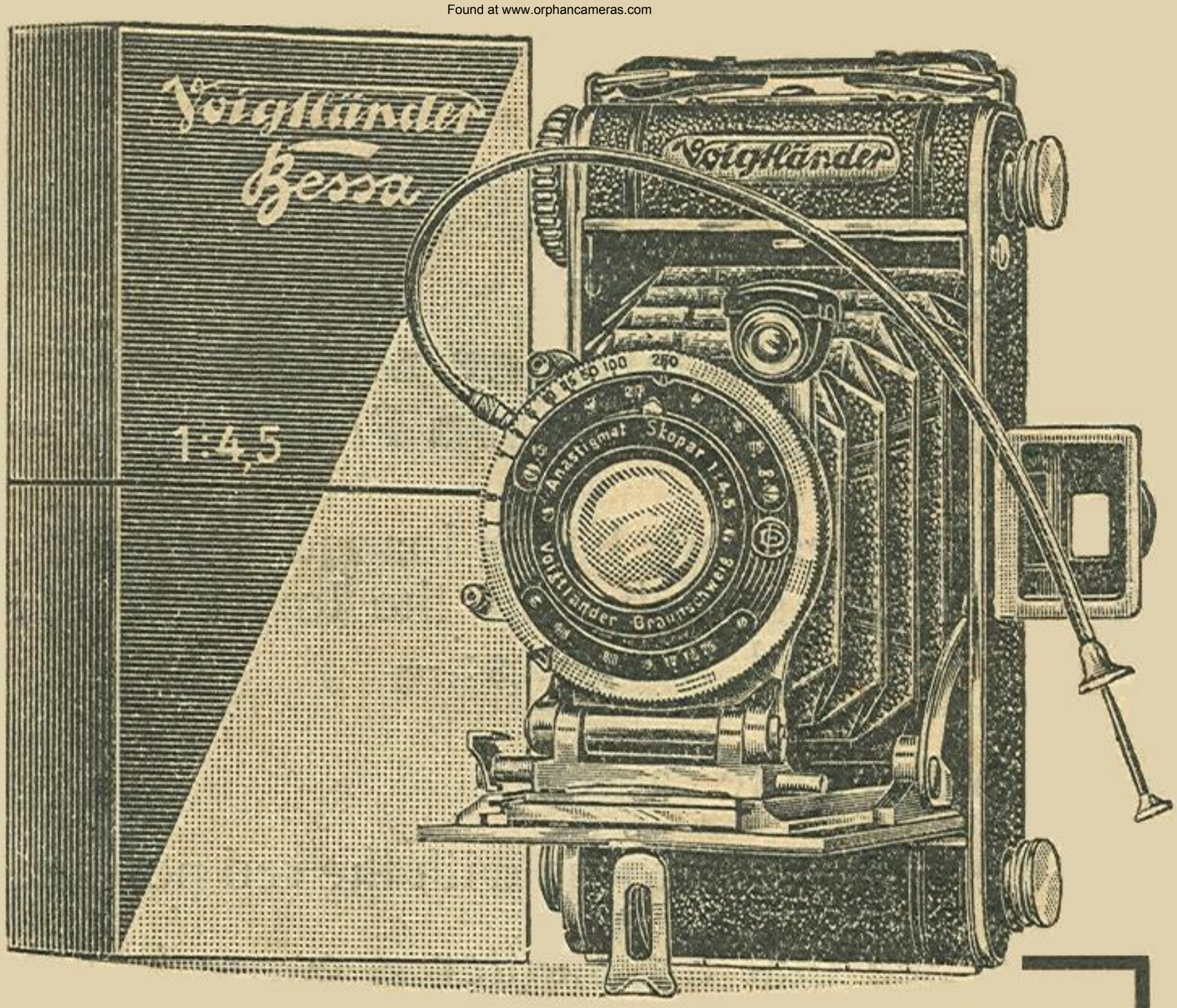


Voigtländer

Bessa

F/4.5

Instructions for use

Nr. 2795/1032 engl.

The movements, in their proper order, when using the Bessa F/4.5 are: —

The camera being loaded with film, and 1 showing in the lower of the two red windows: —

(1) Open the camera,

(2) Adjust the focus with the red pointer,

(3) See that the shutter is correctly set,

(4) Observe the picture in the direct vision or brilliant finder,

(5) Make the exposure with the lever or wire release,

(6) Turn on the film to the next number or to the top window.

Before you begin

The Bessa F/4.5 has many advantages over its forerunner; it is still quicker in preparation, possessed of a larger aperture lens, even more universal, and still easier to handle. You will be so pleased with your new camera, that you will hardly want to pause before making your first good pictures; and why shouldn't the first pictures be good? The few movements of the Bessa are so simple. Even these few movements must, however, be understood and you will achieve this by reading this little booklet before you load the camera for the first time.

Essentials

A Camera is fundamentally nothing more than a folding light tight box, carrying a lens on the front and, at the back, the film on which a picture in miniature of the scene in nature is thrown by the lens (fig. 1).

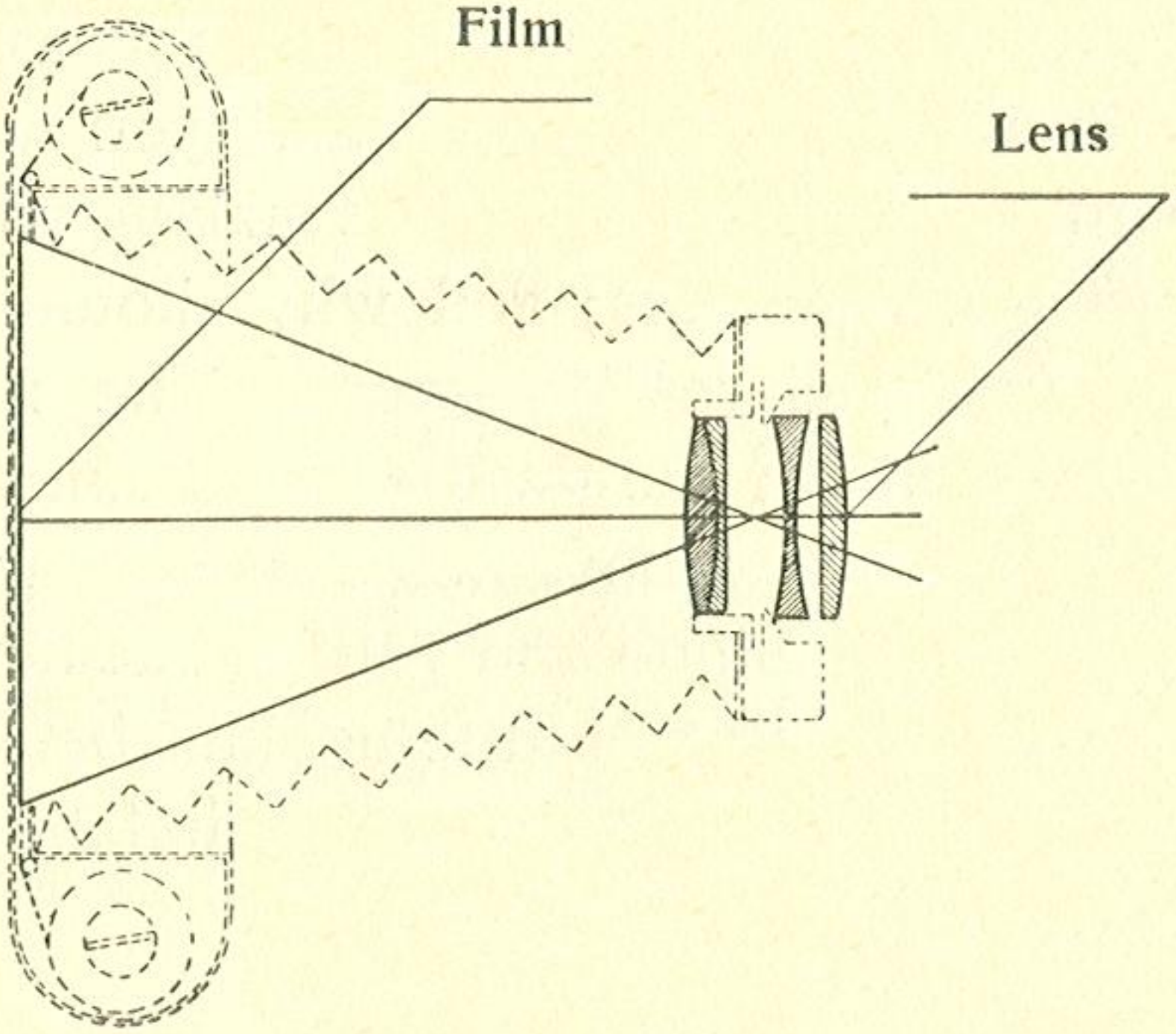


Fig. 1 How the picture is formed

Opening and Shutting

When opening, the Bessa should be held so that the body is either vertical or tilted slightly downwards. Press the button 9 (fig. 2) on the right-hand side

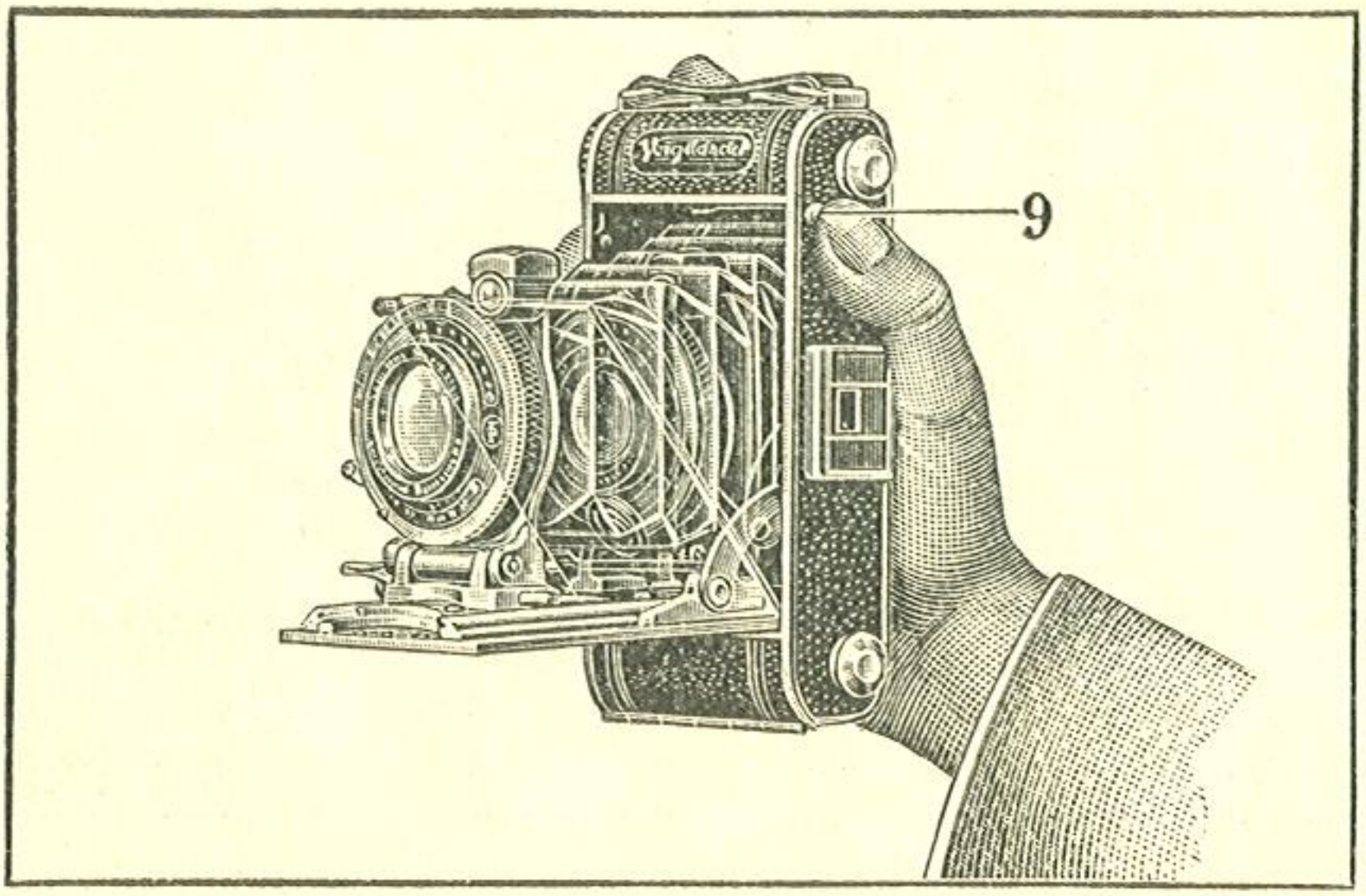


Fig. 2 Opening the Bessa

of the camera, the base-board 5 (fig. 5) will then open and the lens carrier is automatically moved forward to the correct position by a spring. One single movement is thus enough to make the camera ready for an exposure.

The closing of the camera is also a moment's work. The lever 4 (fig. 3) is depressed by the right-hand thumb and the lens carrier pushed back as far as

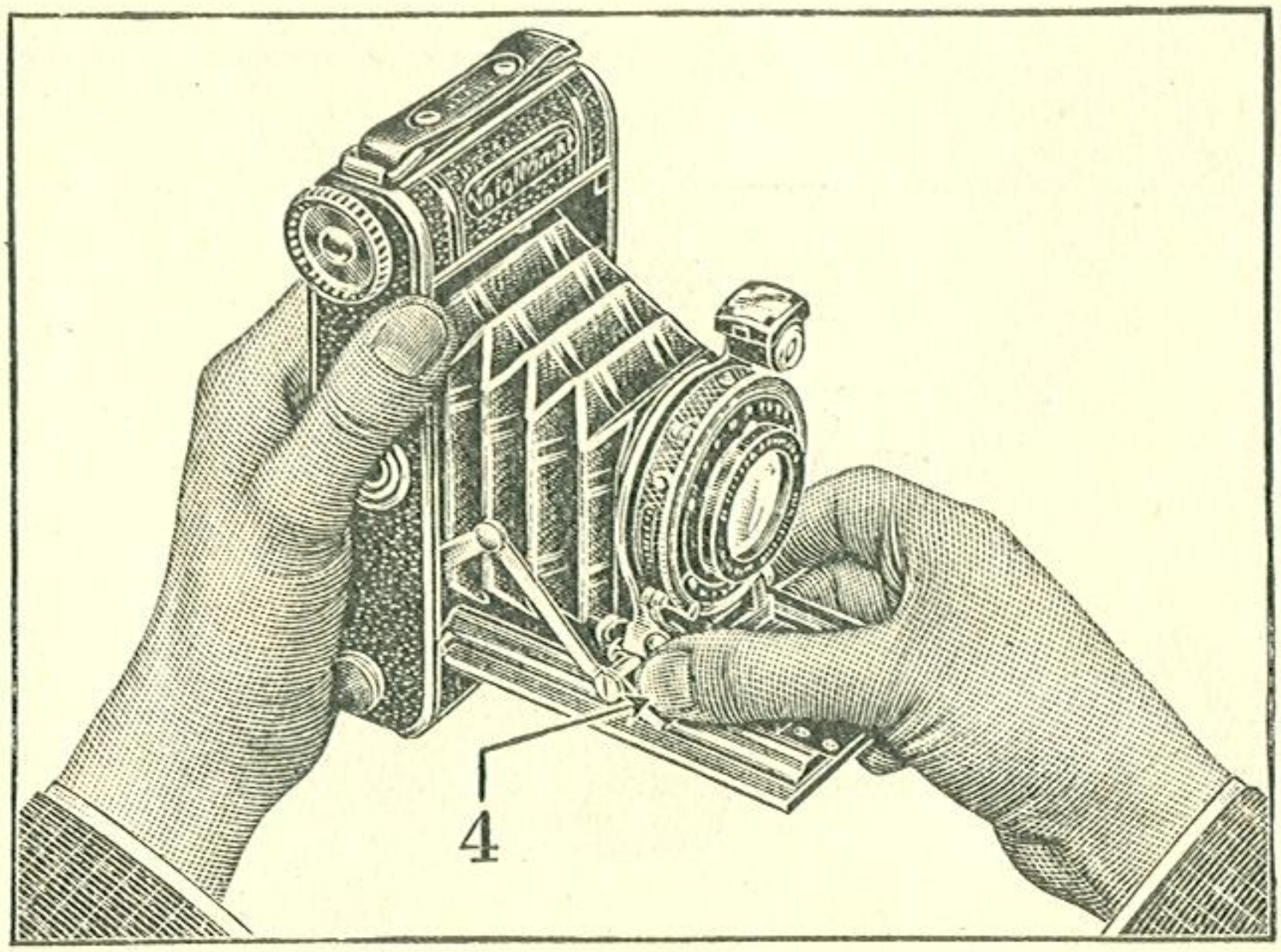


Fig. 3 Pushing home the lens carrier

it will go. The strut 11 (fig. 5) is automatically released and the base-board can be shut without further ado (fig. 4). The new folding lens carrier remains firmly anchored on the base-board when the camera is shut so that damage need not be feared.

Focussing and Iris diaphragm

The Bessa F/4.5 is equipped with the big aperture Voigtländer Anastigmats Heliar or Skopar. On the revolving mount

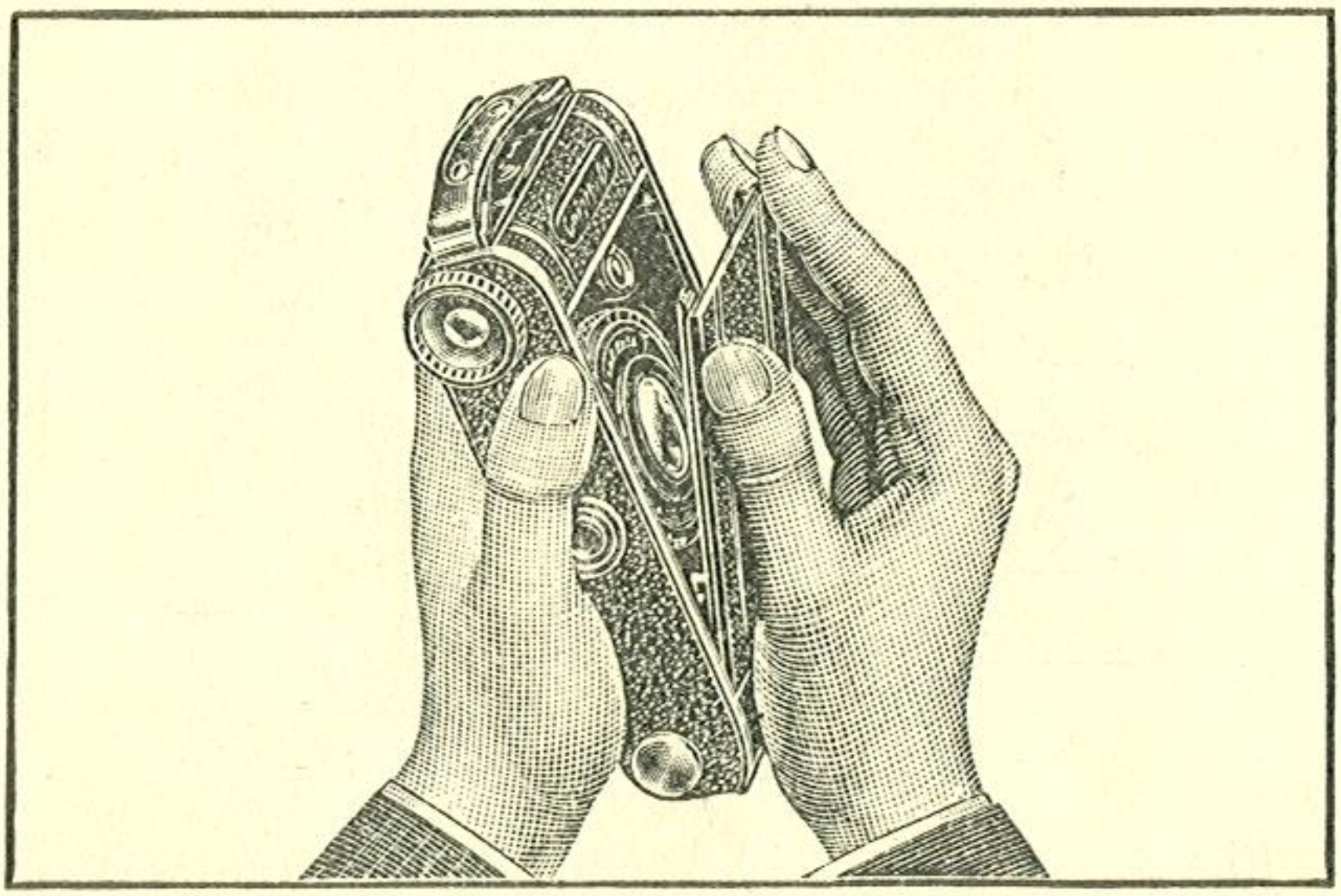


Fig. 4 Closing the base-board

of the front lens 20 (fig. 6 and 7) is a red pointer 19, which moves over the focussing scale. With the Compur Shutter the focussing scale is above the lens, with the Embezet Shutter it is below the lens. When the red pointer is turned right round to the infinity stop (∞), everything

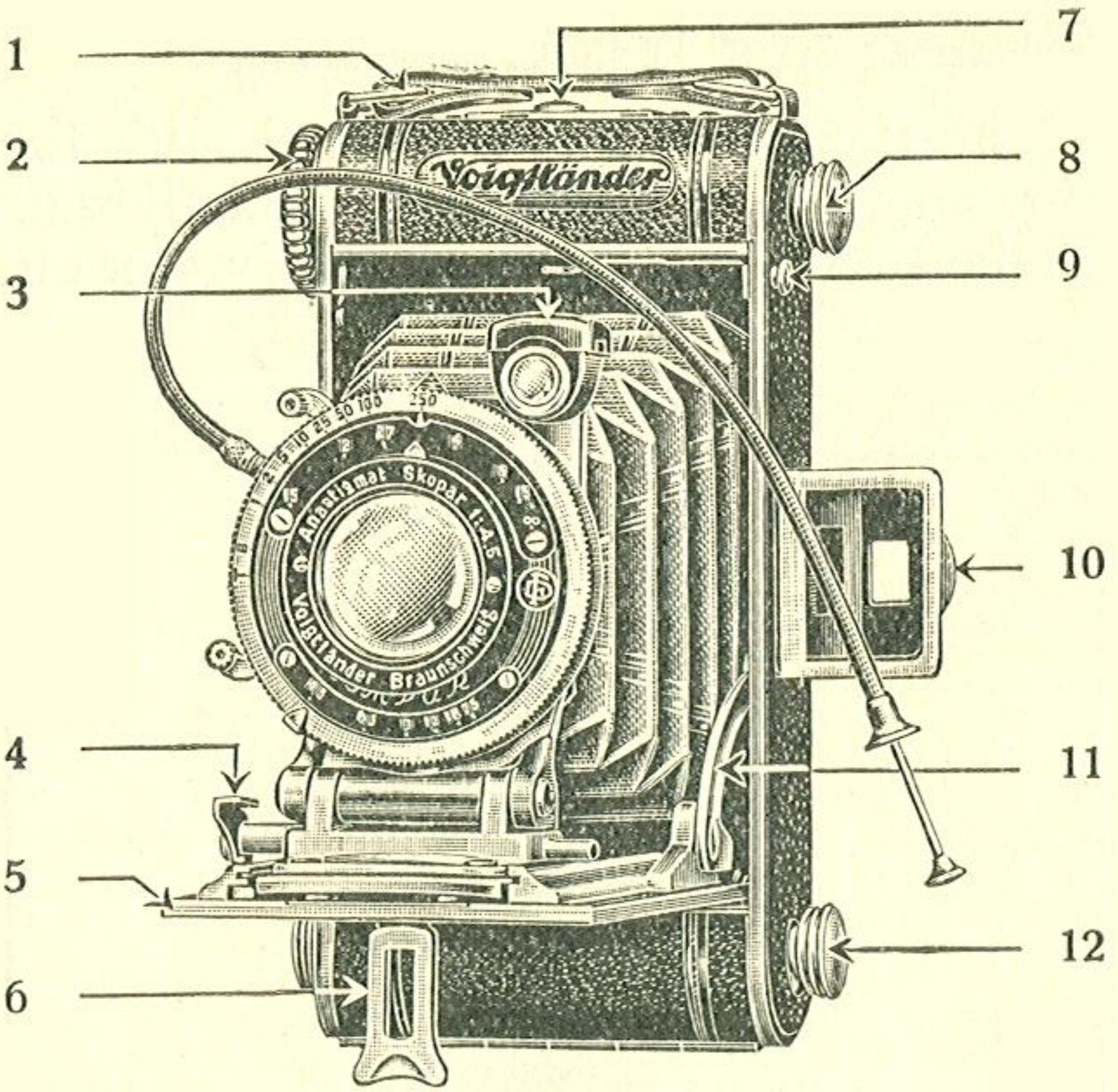


Fig. 5 The Bessa F/4.5 ready for an exposure

beyond **80 feet** will be sharp. When photographing subjects which are nearer, the distance from the camera must be guessed, — you should practice this, — and the red pointer turned to the respective distance on the focussing scale. You can of course turn the pointer to anywhere between the engraved distances.

Voigtländer Anastigmats are so constructed that even at full aperture they give an absolutely corner-sharp picture of all objects in one focussing plane. Should, however, objects both near and distant be included in the picture, you need what is called "Depth of focus", which with all lenses is greater the smaller stop one uses, that is to say, the smaller the opening of the lens becomes through the closing of the Iris Diaphragm. The Iris Diaphragm is controlled by the lever 17 (fig. 6 and 7) which shows the stop values on the diaphragm scale on the lower edge of the shutter. The smaller stop values indicate larger openings and the values are so chosen, that the next smaller opening always needs double the exposure of the one immediately preceding it. When you stop down you increase the exposure necessary so that a compromise must often be arrived at between these two. It is the photographer's task to so adjust the focussing and the Iris Diaphragm that all important objects, particularly those lying nearer the camera, are within the sharp zone. This problem is made easier by consulting the depth of focus table on the back of the camera

which is arranged on the co-ordinate system; in the left-hand vertical column are the distances in feet, and in the top horizontal column the stop values. If you go along the horizontal column opposite a particular distance until you arrive at the vertical column below a certain stop value, the figures you find here represent the zone of sharpness in feet that this particular focus and stop value represent.

Close ups with the Focar Lens

Anyone who wishes to take pictures of objects still nearer than 5 feet has only to push a portrait or wide angle Focar lens over the lens of his Bessa. The portrait Focar lens is for portraits and still life with the objects from **39 inches to 24 inches,** whilst the wide angle Focar lens is for objects from **20 inches to 15 inches,** so that still greater scale pictures can be made of plants, animals and other small things.

When using the Focar Lenses, the exposure remains the same as for the normal use of the lens under the same conditions. The focal length of the lens is just a little shortened so that – without lengthening the extension – the following close ups are possible.

Portrait Focar Lens No. 60

For Skopar and Heliar in Bessa F/4.5 size 3¼ × 2¼.

Focussing on	Objects are obtained sharp at
∞	39 inches
50 feet	37 „
25 „	35 „
12 „	31 „
8 „	28 „
6 „	25 „
5 „	24 „

Wide angle Focar Lens No. 31

For Skopar and Heliar in Bessa F/4.5 size 3¼ × 2¼.

Focussing on	Objects are obtained sharp at
∞	20 inches
50 feet	19 „
25 „	18½ „
12 „	17½ „
8 „	16½ „
6 „	15½ „
5 „	15 „

The Portrait Focar Lenses can be used at full aperture F/4.5 for portraits; with the wide angle Focar Lens, however, one is well advised to stop down somewhat on account of the depth of focus. The distance when photographing such near objects must naturally be very accurately judged, it is best to measure the distance not from the front of the lens but from the middle of the lens (Iris Diaphragm). Portraits from as close are advantageously taken slightly from the side so that they are sharp and natural.

Shutter

The camera is equipped with the Embezet or Compur shutters.

Embezet Shutter

with delayed-action (fig. 6)

The length of the exposure is controlled by the adjusting dial 15 on the edge of which the letters *T* (long time exposures) and *B* (short time exposures) also the instantaneous speeds, ($^1/_{100}$, $^1/_{50}$ and $^1/_{25}$ sec.) are engraved. The speeds are engraved as whole numbers, so that they can be more easily read.

Instantaneous Exposures

By turning to the left or right the dial 15 is so adjusted that the required speed is exactly over the pointer. Now the shutter is ready for the exposure and can be

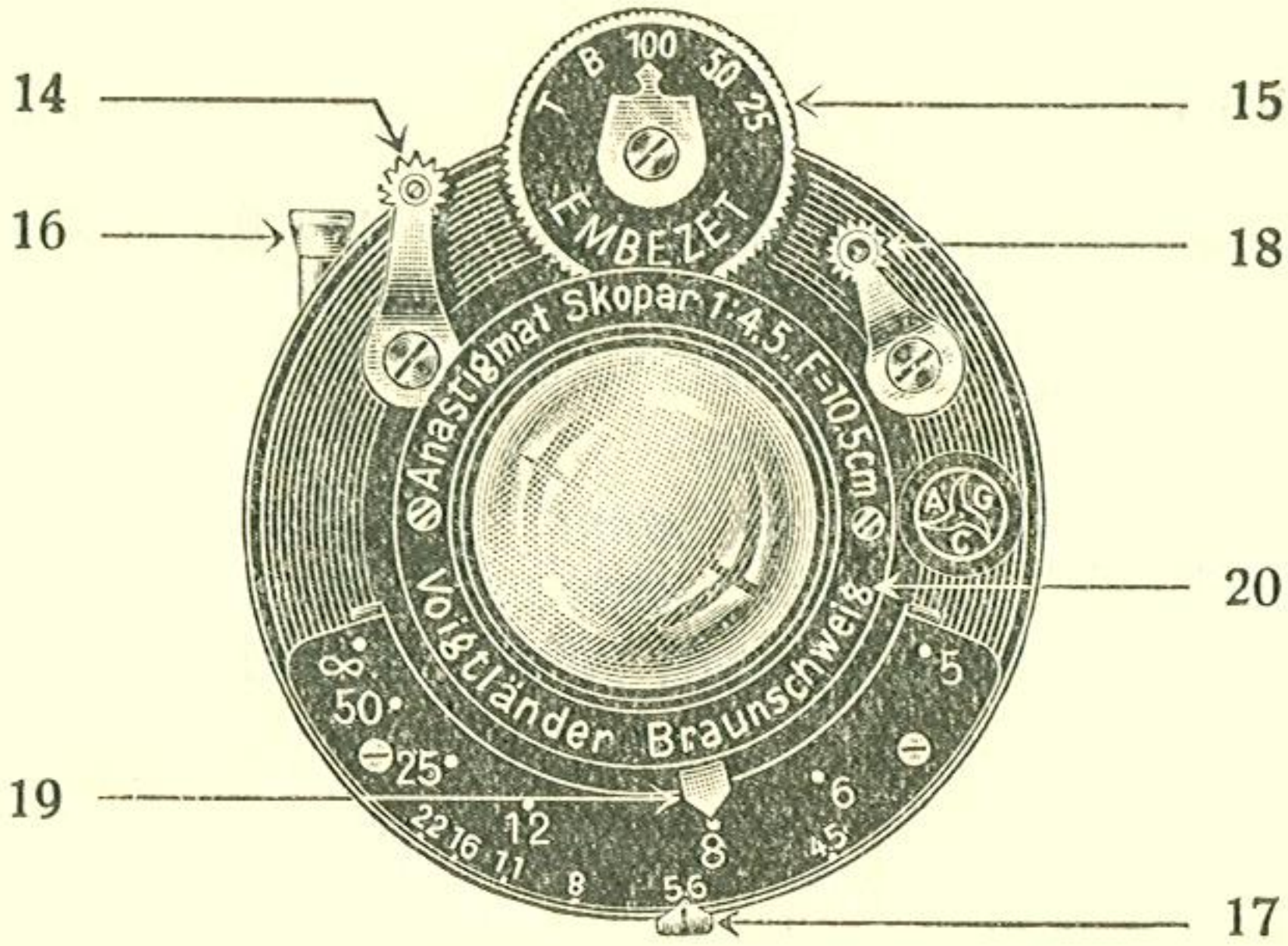


Fig. 6 Embezet Shutter

released either by pressing the lever16 or the wire release which has been screwed in the nipple 14.

Time Exposures

The dial is turned so that the letter *B* is over the pointer. By pressing the wire release or the lever 16, the shutter is

opened and remains open as long as the pressure is exercised. If you wish to expose for instance three seconds, you should count as follows, "One little second, Two little seconds, Three little seconds". At one, press the release, and at the end of "Three little seconds" relieve the pressure.

If the letter *T* is over the pointer, the shutter is opened by the first movement of the lever or wire release, and is shut by a second pressure on either of these. This position is used for exposures that will last for minutes (for example, Night Pictures) and when working with flashlight.

Delayed-action device

With the instantaneous speeds ($^1/_{100}$, $^1/_{50}$, $^1/_{25}$ sec.,) the shutter can be made to release itself automatically through the delayed-action device, so that you can photograph yourself. After the exposure has been set to the correct speed, the lever 18 with red knob is depressed as far as it will go. You can then press the release in the normal way which starts

the delayed-action and the shutter is operated after an interval of ten or eleven seconds.

If the delayed-action device is prepared for an exposure which for some reason you do not wish to make, you should press the palm of your hand against the front of the lens mount, when you can release the shutter without the film being exposed. The delayed-action device should not be left set.

Compur Shutter with delayed-action (fig. 7)

The shutter is surrounded by the revolving ring 15 on which the letters *T* (long time exposure), *B* (short time exposure), and the instantaneous exposures from 1 to 1/250 sec. are engraved. The instantaneous speeds are not engraved as fractions but as whole numbers so that they are easier to read.

Instantaneous exposures

By turning the ring 15 the required speed is brought opposite the pointer above the focussing scale. The speeds

from 1 to 1/100 sec. are all on the same cam so that the shutter can be set between any two numbers for speeds such as 1/75 which is between 1/50 and 1/100 sec. The shutter must not, however, be set

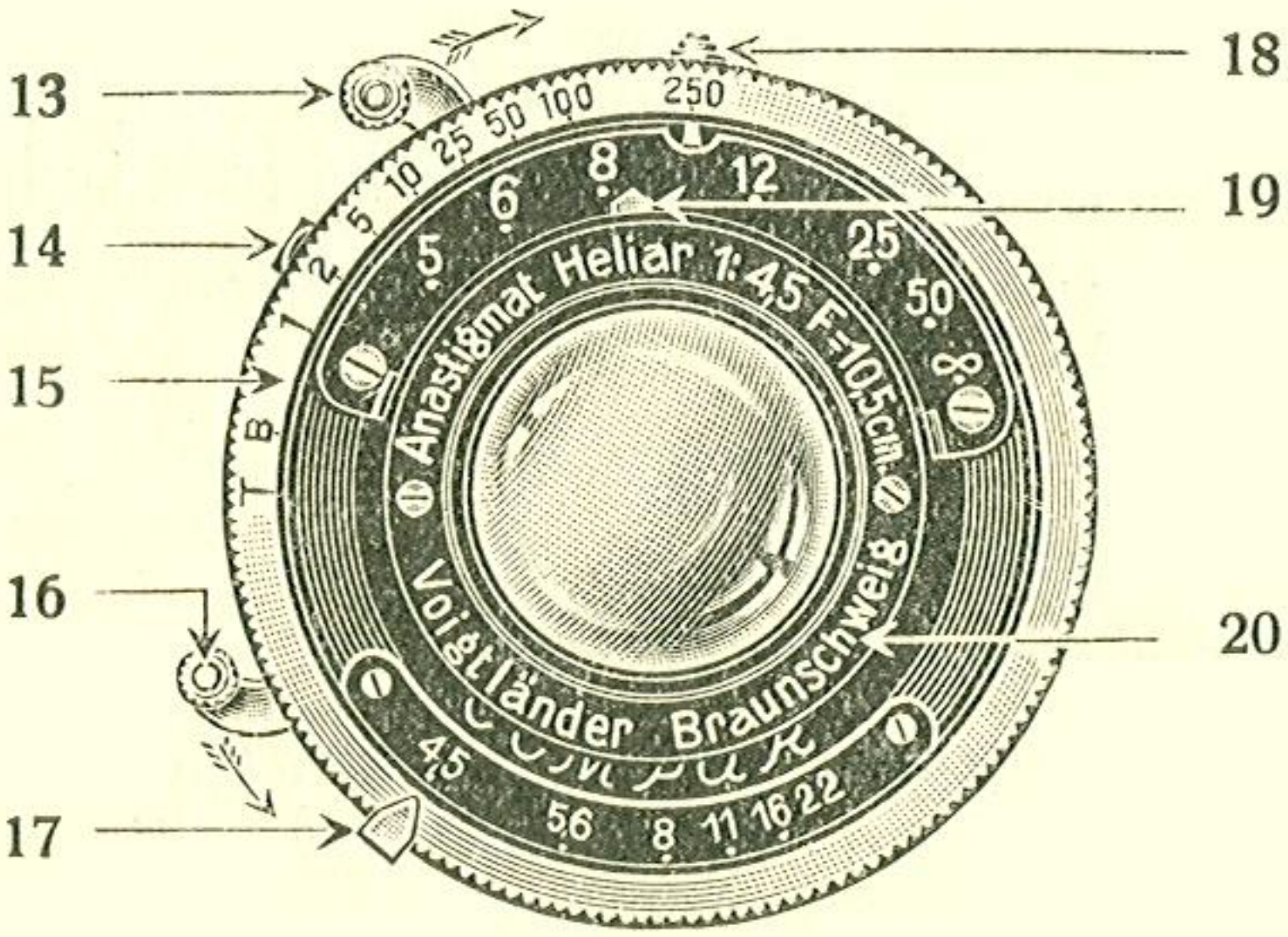


Fig. 7 Compur Shutter

between 1/100 and the highest speed nor between *B* and 1 sec. The shutter is set by pressing the lever 13 to the right (seen from the front) as far as it will go. In the ordinary way it does not matter whether you set the speed or the tension first. It is, however, better when using the highest speed to set the ring before the

shutter is tensioned, as setting the ring to this speed after the shutter has been tensioned is rather difficult. The shutter can be released either by pressing the lever 16 or the wire release screwed into the nipple 14.

Time exposures

The shutter must **not** be tensioned for time exposures, the tensioning lever 13 is locked when the ring is set to *T* and *B* and if it is forced the shutter will be damaged. If the letter *B* is over the index the shutter will open when pressure is exerted on the wire release or the lever 16 and remain open as long as the pressure is continued. If you wish to expose for instance three seconds, you should count as follows, "One little second, Two little seconds, Three little seconds". At "one" press the release and at the end of "Three little seconds" relieve the pressure.

If the letter *T* is over the pointer, the shutter is opened by the first movement of the lever or wire release and is shut by a second pressure on either of these. This position is used for exposures that will last for minutes (for example, night pictures) and when working with flashlight.

Delayed-action device

If you wish to take a photo of yourself the shutter should first be set and tensioned as above, then the knob 18 on the top of the shutter should be pushed in the direction of the engraved arrow when the lever 13 can be moved further to the right, thereby tensioning the delayed-action device.

As with an ordinary exposure either the lever 16 or the wire release is pressed, this sets the delayed-action in motion and the shutter will open after an interval of about 12 seconds. The exposure will be that which is indicated on the ring above the index. **The delayed-action device cannot be used with the highest speed.**

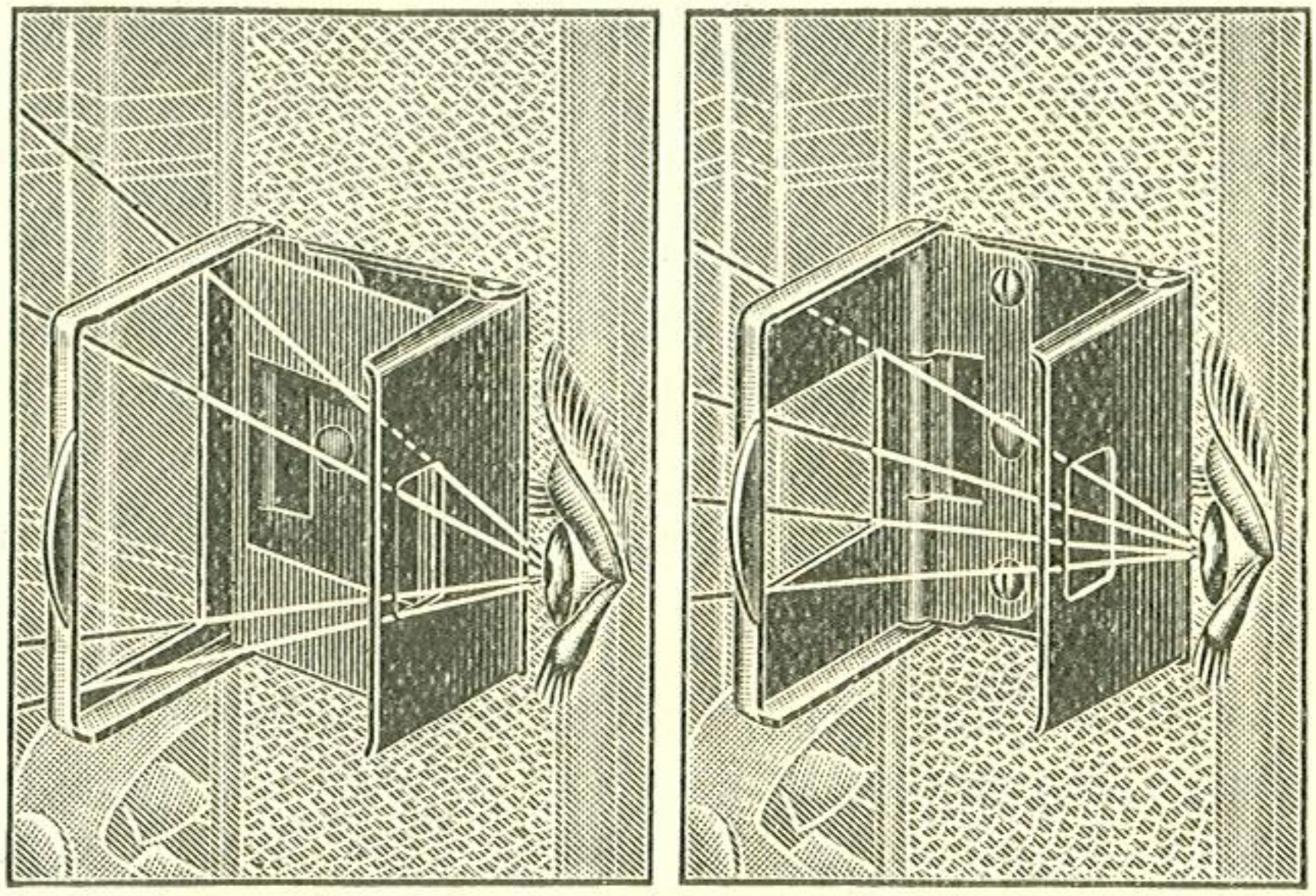
Finders

The camera is equipped with two different finders which give the correct picture for full size as well as when the small picture insert is being used.

Frame Finder (direct vision finder)

This consists of the actual frame 10 (fig. 5) with a black steel mask for pictures

4,3×5,5 cm. and the second part with a smaller opening which is known as diopter. If the frame is lifted by the lip pointing towards the back of the camera it will spring up at right angles to the



a b

Fig. 8 How to look through the frame finder

side of the camera and the diopter automatically assumes the correct position.

When taking pictures 3¼×2¼ inches the steel mask is sloped towards the diopter as seen in fig. 8a. You find the correct picture by looking through the

small opening of the diopter from such a distance that its sides coincide with those of the frame (fig. 8).

When taking small pictures i. e. 4,3 × 5,5 cm. the steel mask is lifted and pushed inside the frame (fig. 8b). Only the sides of the diopter have to coincide with the sides of the black steel mask. The upper and lower parts of the diopter and steel mask do not coincide. The mask itself shows the proper picture limits when holding the eye in such a position that on looking through the diopter the outer, nickelled, smaller sides are just seen.

Even if it sounds a little complicated and uncomfortable to work with the frame finder this method has many advantages. Because the camera is held at the same height as the eyes, the perspective of the picture is the same as that to which we are accustomed. With the frame finder, as with any other sort of finder, there is a slight difference in the field of the finder and the picture thrown on the film when taking close ups which is called parallax, because it is impossible not to have the finder

slightly to the side of the lens. You must be particularly careful of this when making small pictures with the portrait or wide angle Focar lenses (see page 30).

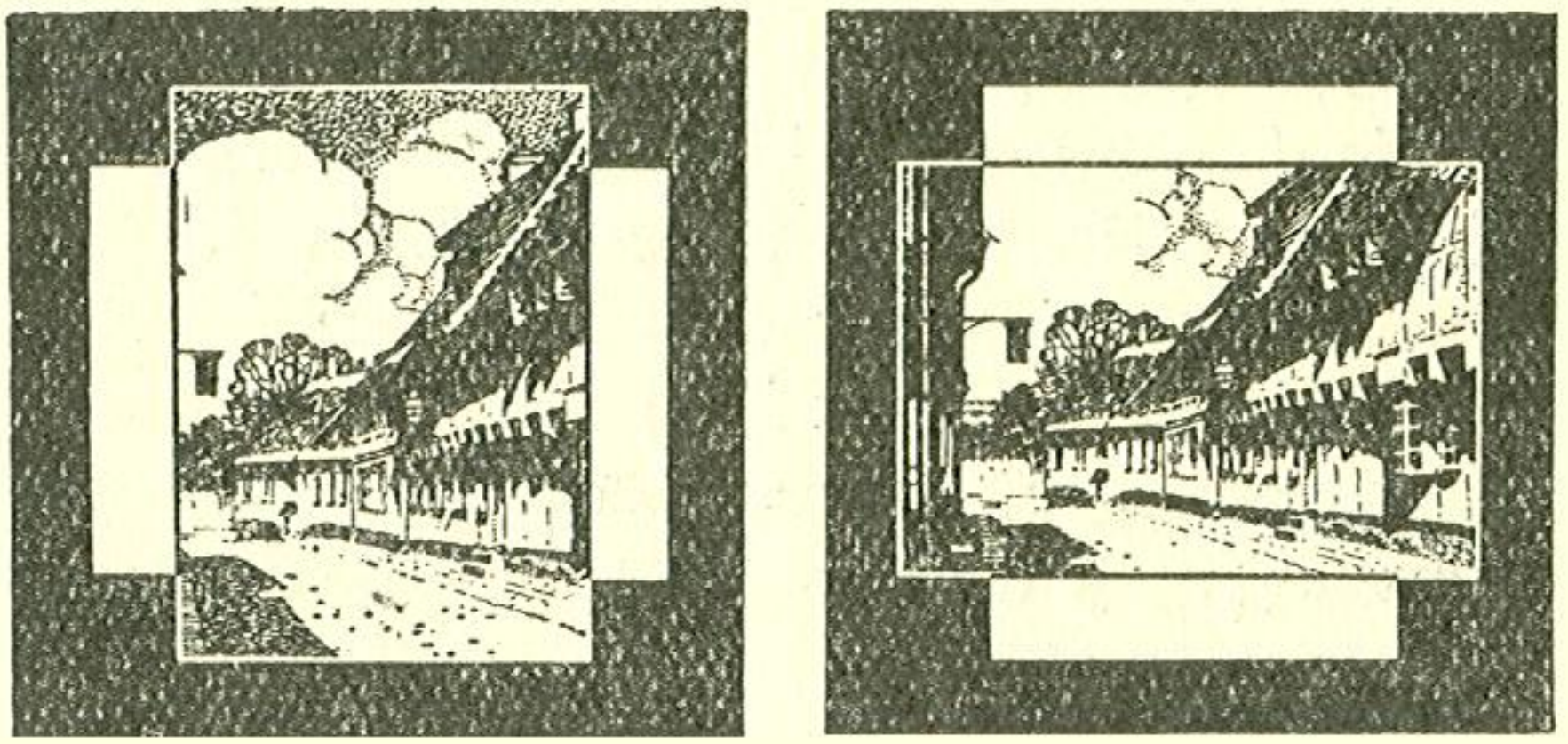
Brilliant Finder (Reflex Finder)

For pictures taken at chest level you can use the brilliant finder 3 (fig. 5); for vertical pictures $3^1/_4 \times 2^1/_4$ (horizontal pictures $2^1/_8 \times 1^3/_4$) in the normal position and for horizontal pictures $3^1/_4 \times 2^1/_4$ (vertical pictures $2^1/_8 \times 1^3/_4$) turned through a right angle. The picture should be viewed from above from about 10 inches and it is particularly important that the eye is directly over the centre of the finder.

Fig. 9 shows how you distinguish the edges of the vertical or horizontal picture. For the practically square small size pictures you can take the four points of the mask as giving the corners of the picture.

It is easier and more accurate to work with the Voigtländer Finder Magnifier No. 6 (fig. 17) which has a special mask for the small pictures and at the same

time enlarges the image about three times. If you wish to have a finder magnifier for 3¼×2¼ without the small picture mask, you should order the Voigtländer finder magnifier No. 5. The



Vertical Horizontal

Fig. 9 Brilliant finder pictures for 3¼×2¼

Magnifier is so small that when closed it can easily be carried in the waist-coat pocket. In use it is pushed over the brilliant finder and can be focussed for all eyes by moving the nickel tube. It is best to hold it quite close to the eye.

Loading the Bessa

Now that we understand all the mechanism of the Bessa, we can pass on to the loading with rollfilm. This operation can be undertaken in daylight as the actual film is protected by many layers of light tight paper. You should not load the camera in brilliant sunshine, but at least in your own shadow.

To open the film chamber of the Bessa you must hold the camera with the right hand from the front and with the left hand the carrying handle (fig. 10), then with the first finger of the right-hand you can release the lock 7 (fig. 10) by pushing it sideways in the direction of the arrow, when the back of the camera can easily be opened by pulling the carrying handle. In the top film chamber there is on the left hand side a knob 8 (fig. 5) which, when pulled out and turned either right or left, remains in this position so that the round pin is withdrawn from the inside of the film chamber.

On the right hand side of the top film chamber there is a convenient film turning knob 2 (fig. 5). This has on the

inside a key which transfers the movement of the knob to the spool. If you pull the knob outwards the key also disappears from the film chamber, it cannot, however, be arrested in this

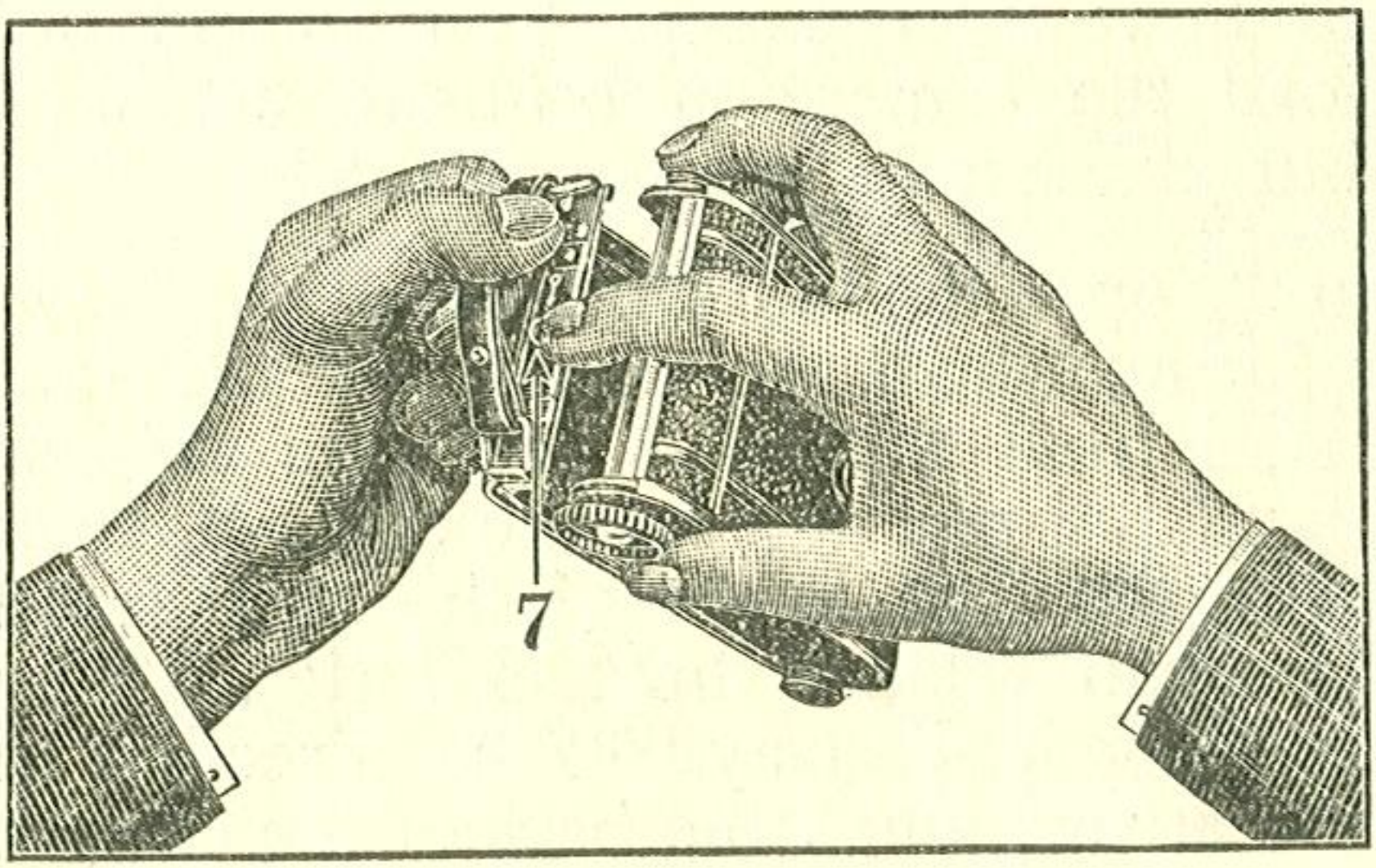


Fig. 10 Opening the film chambers

position. So you must hold the film turning knob out when you can push the empty spool into the film chamber quite easily (fig. 11). One thing you must be careful about is, that the end of the spool with the slot in it is toward the film winder, also that the film spool is placed in the camera quite parallel. If you now

let the knob 8 spring back into position, and turn the film turning knob a few times to the right the key will automatically find the slot in the film spool, and the two will be definitely connected.

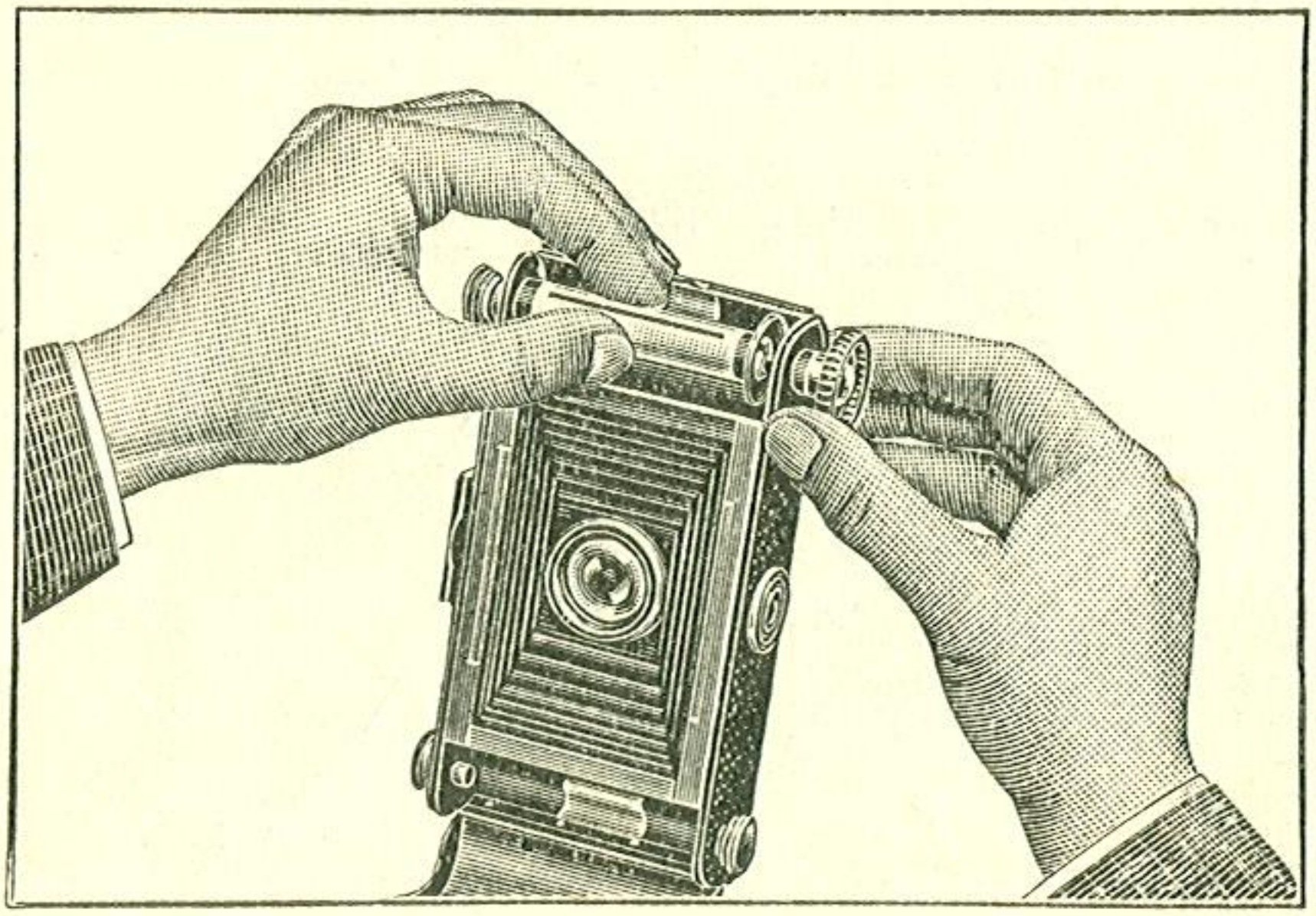


Fig. 11 Inserting the empty spool

The bottom film chamber, by the hinge of the back, has two knobs 8 that can be drawn out and twisted as above. Here you must insert the new film spool so that it lies with the point of the safety paper appearing on the outside, that is the hinge side of the film chamber, so that the bottom spool turns in the same

direction as the empty spool at the top. As you press the spool lightly against the spring in the film chamber you can release the knobs and the pins will hold the spool firmly.

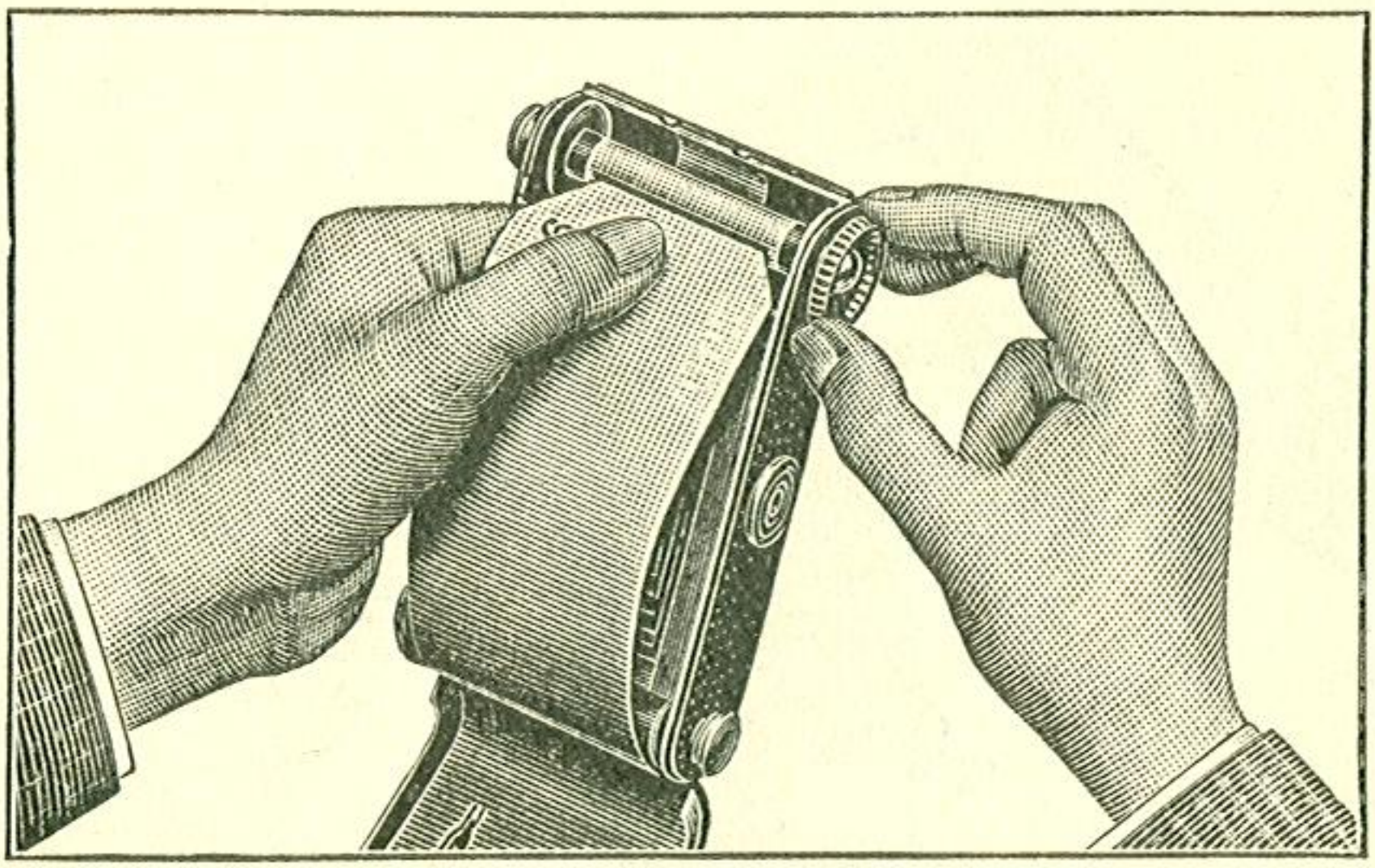


Fig. 12 Fixing the safety paper

Now remove the seal of the new spool with your finger nail and draw the safety paper as far as the top spool chamber, where the point should be inserted in the long side of the slot in the empty spool (fig.12) making sure that the paper runs absolutely parallel.

If everything is correct, the back of the camera should be closed, by carefully pressing the two halves together.

3 1/4 × 2 1/4 Pictures

When taking pictures 3 1/4 × 2 1/4 only the lower of the two red windows in the back of the camera should be used. Having inserted the film, the winder should be slowly turned until after about 10 to 15 turns a hand, some dots, and lastly the figure 1 appears in the lower window. The camera is now ready for the first picture. For the second and every other picture the film turning knob must be turned until the figures from 2 till 8 have appeared in the lower window. You will be well advised to turn to the next number immediately after each exposure, before the lens carrier is pushed back into the body as it is possible for the film to become scratched by the bellows.

Using the small picture insert

If instead of eight pictures 3 1/4 × 2 1/4 you would like sixteen **2 1/8 × 1 3/4 inches** on one spool, you must use the small

picture insert which is made of spring steel and is placed in the picture opening between the two film chambers before loading the camera (fig. 13).

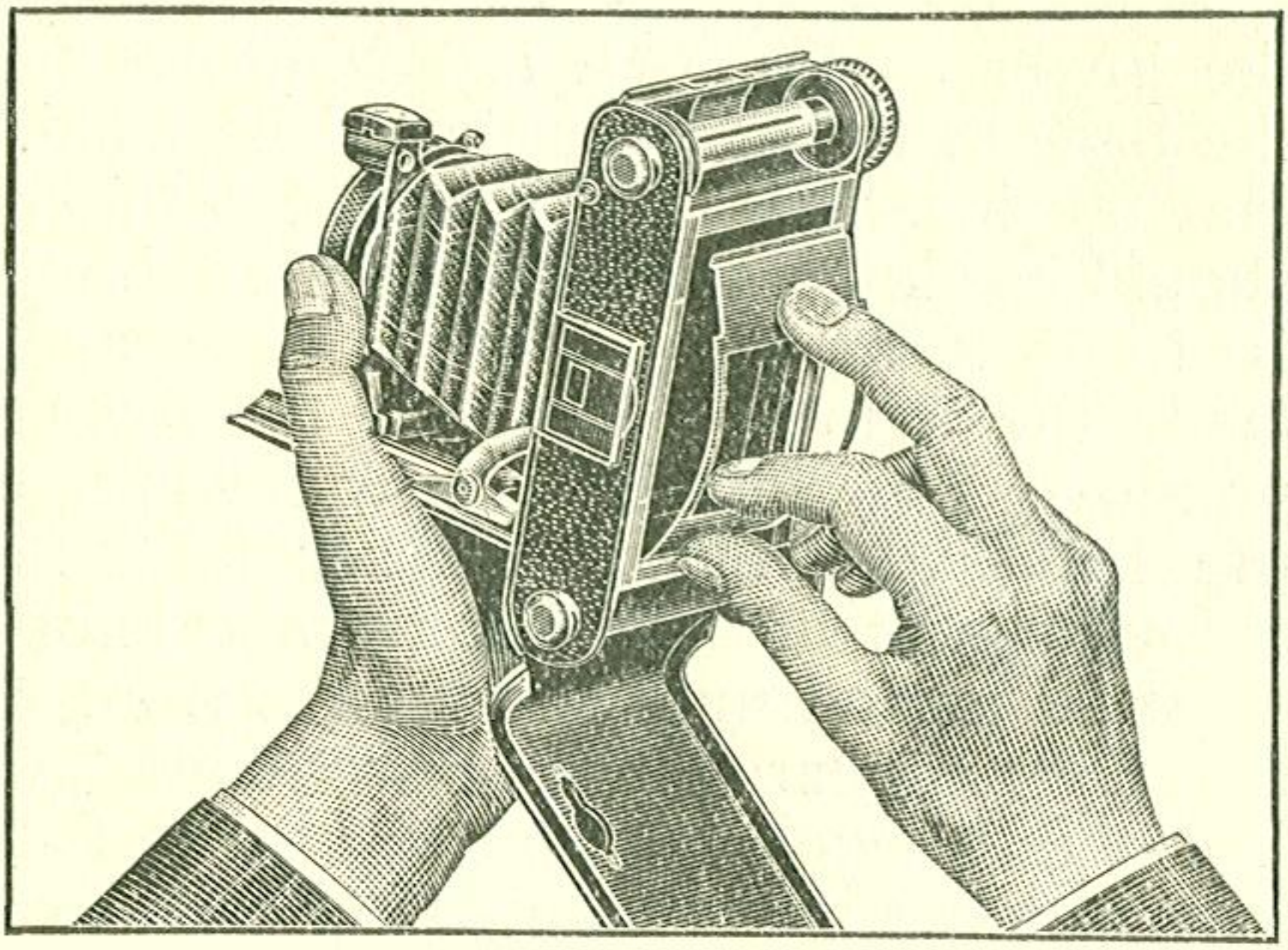


Fig. 13 Inserting the small picture mask

You must open the back of the camera and the base-board so that the folds of the bellows do not get in the way. Then the recessed edge of the mask are simply placed under the small sides of the picture opening when the side pieces of

the mask will automatically fall into the recesses on the sides of the picture opening.

When taking pictures with this mask, the strip of film is used with practically no waste so that there is very little room between each picture. You must therefore be careful that the numbers are accurate in the film windows.

For the first picture the film must be wound until the number 1 is in the bottom window. Having exposed the first picture the film is wound until the same number1 is in the top window. The difference between using the $3^{1}/_{4} \times 2^{1}/_{4}$ size and the small size, is, that each of the numbers one to eight is exposed first in the lower window and for the next picture in the top window.

When the small picture mask is in use it is particularly important that the film should be wound on to the next number with the bellows extended as the folds of the bellows press against the mask and this would then probably scratch the film. We would recommend you to wind the film on to the next position immediately after each exposure.

When using the portrait or wide angle lenses with the small picture mask, the frame finder shows less of the picture on the side of the camera and more on the opposite side than is actually on the film (parallax, see page 20). The picture is offset by about 1/6 th (when focussed **on 39 inches)** to 1/3 (when the object **is 15 inches** away) on the long sides of the steel mask. This is quite easy to rectify by looking through the diopter at an angle (with vertical exposures from above and with horizontal exposures from the left hand side) so that the diopter and the frame are correspondingly offset.

Taking the film out of the camera

When you have exposed the whole film, wind it on until the end of the safety paper has gone past the window and the film is all on the top spool. You can't "overwind" anything doing this.

The back of the camera is now opened as explained under "loading" (fig. 10) then hold the end of the safety paper with the left hand and turn the winding knob a little further so that the film is

tightly wound, but not too much as you might then scratch the film, while a too loosely reeled film lets the light in at the edges. Now pull out the knob 8 and turn it slightly so that it stops there.

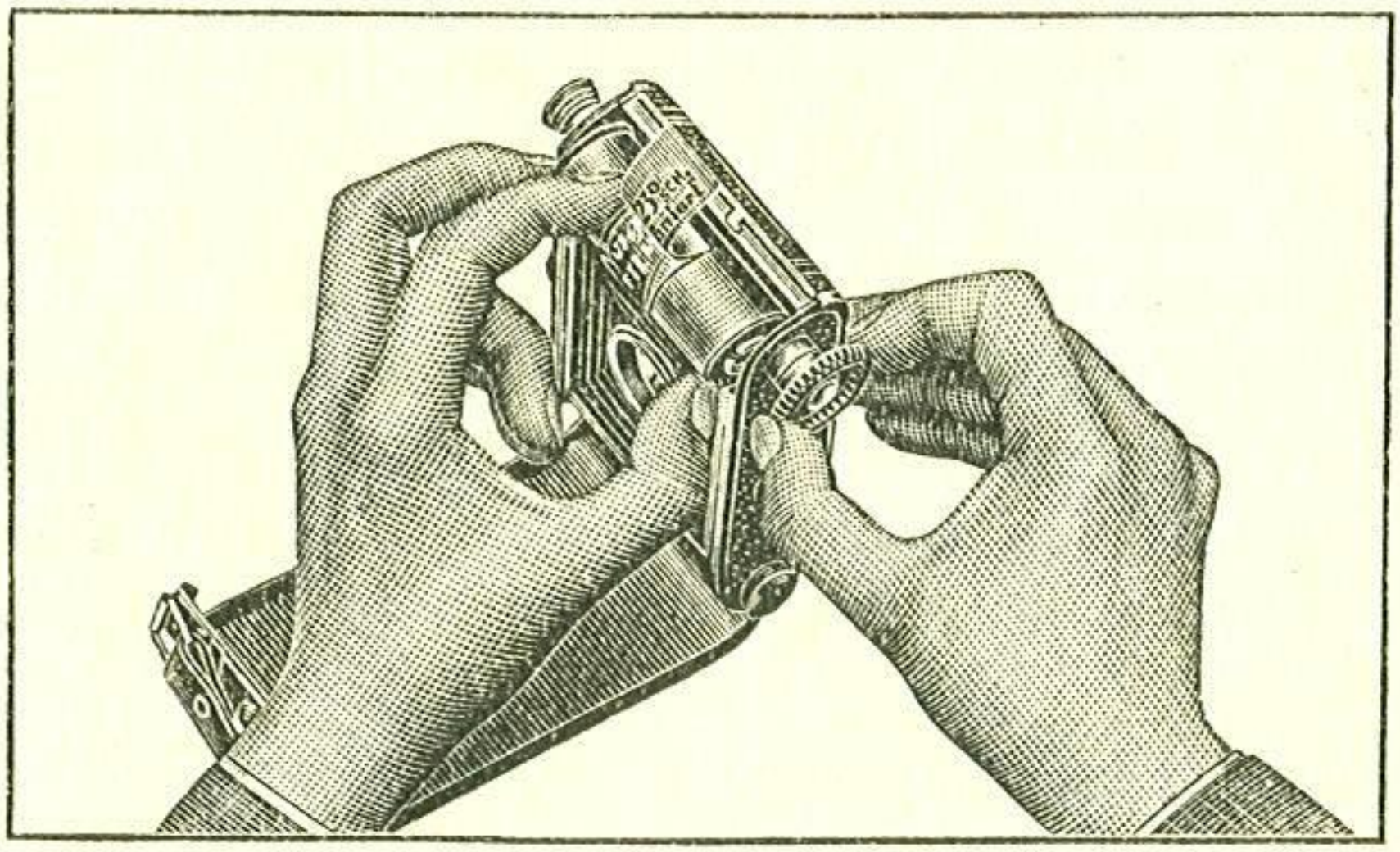


Fig. 14 Removing the exposed spool

Then take hold of the film with the tips of the thumb and middle finger (fig. 14) at the same time holding the end of the paper with the first finger so that the spool does not unroll, the winding knob is now drawn out and the spool can be removed from the chamber without further difficulty. The spool is now sealed

with the piece of gummed paper that you will find ready prepared.

All this can be done in daylight, but it is naturally better not to do it in direct sunlight but at least in your own shadow. The best way to pack the exposed film is (provided you are going to load the camera immediately) to wrap it up in the paper and to put it in the carton of the new film, so as to avoid mixing up exposed with unexposed films, you should make some mark on the box. The empty spool in the bottom film chamber is now moved up to the top chamber as described under "loading".

Holding the camera

If your pictures are to be successful, the way you hold the camera is important. As there is not always very much time for thought before an exposure, it is a good idea to practice the necessary movements with the camera unloaded, until everything can be done without thinking. Whether you are using the small picture mask or not has very little influence on the way you hold the camera. You have only to remember that with

the mask vertical pictures are made with the camera horizontal and horizontal pictures with the camera vertical that is, exactly opposite to the 3¼×2¼ pictures.

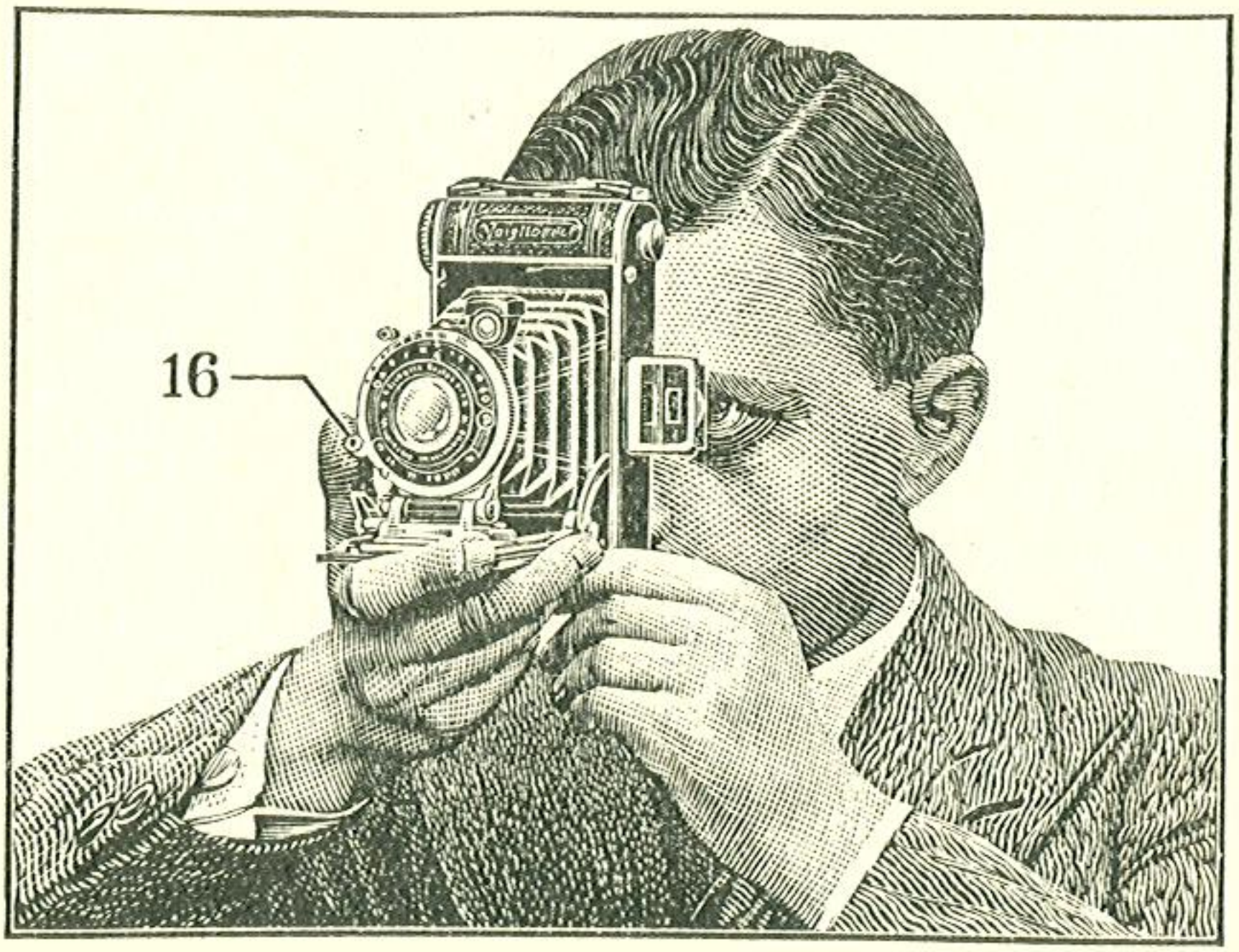


Fig. 15 Vertical picture with the frame finder

The best way to hold the camera can be seen in fig. 15, 16, 17. The most important thing is to hold the camera still, as the slightest shake in the camera during exposure results in double outlines in the picture.

As you are opening the camera and focussing you should take up a firm position. When using the frame finder the back of the camera is rested against the

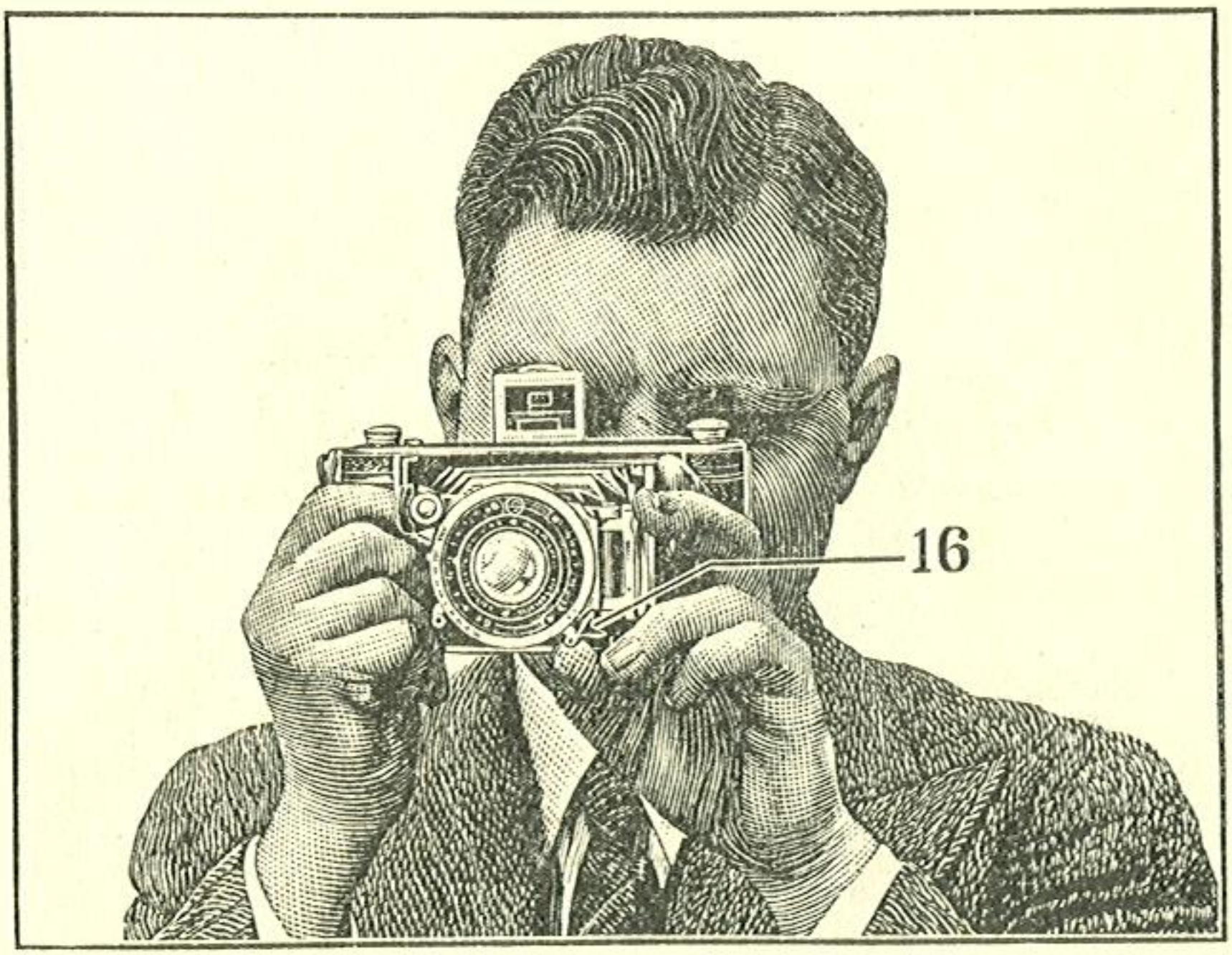


Fig. 16 Horizontal picture with the frame finder

bridge of the nose and the forhead. If you prefer the brilliant finder, the camera should be pressed against the chest. The camera must be held so that the side edges are vertical otherwise everything will be crooked in the picture, further,

when buildings are in the picture, the camera must never be tilted upwards or downwards, as this will result in all the vertical lines running together.

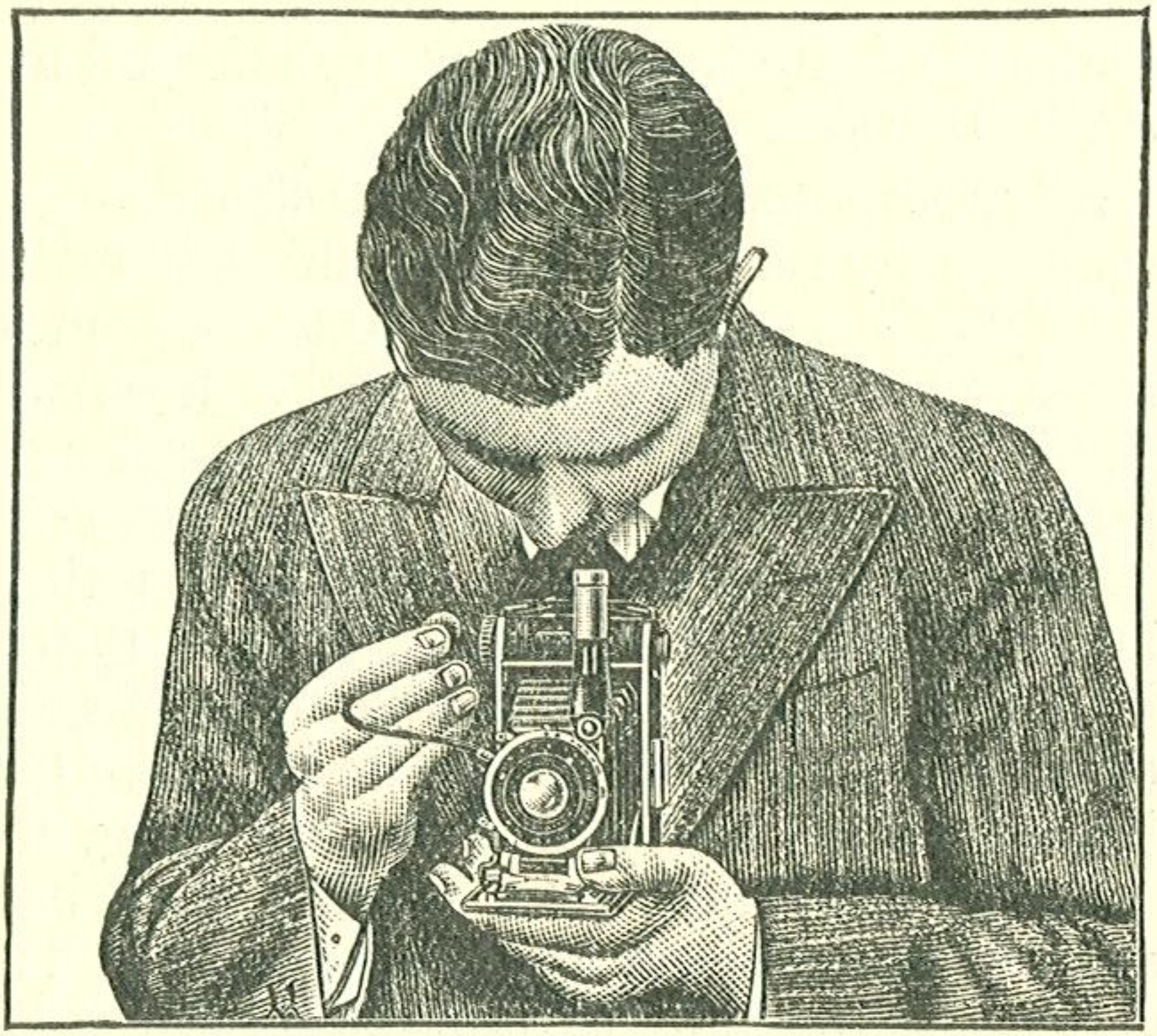


Fig. 17
Picture with brilliant finder and finder magnifier

The shutter is most comfortably released with the thumb on the lever 16 (fig.15, 16) you must however — as with a rifle — find the release position and then press

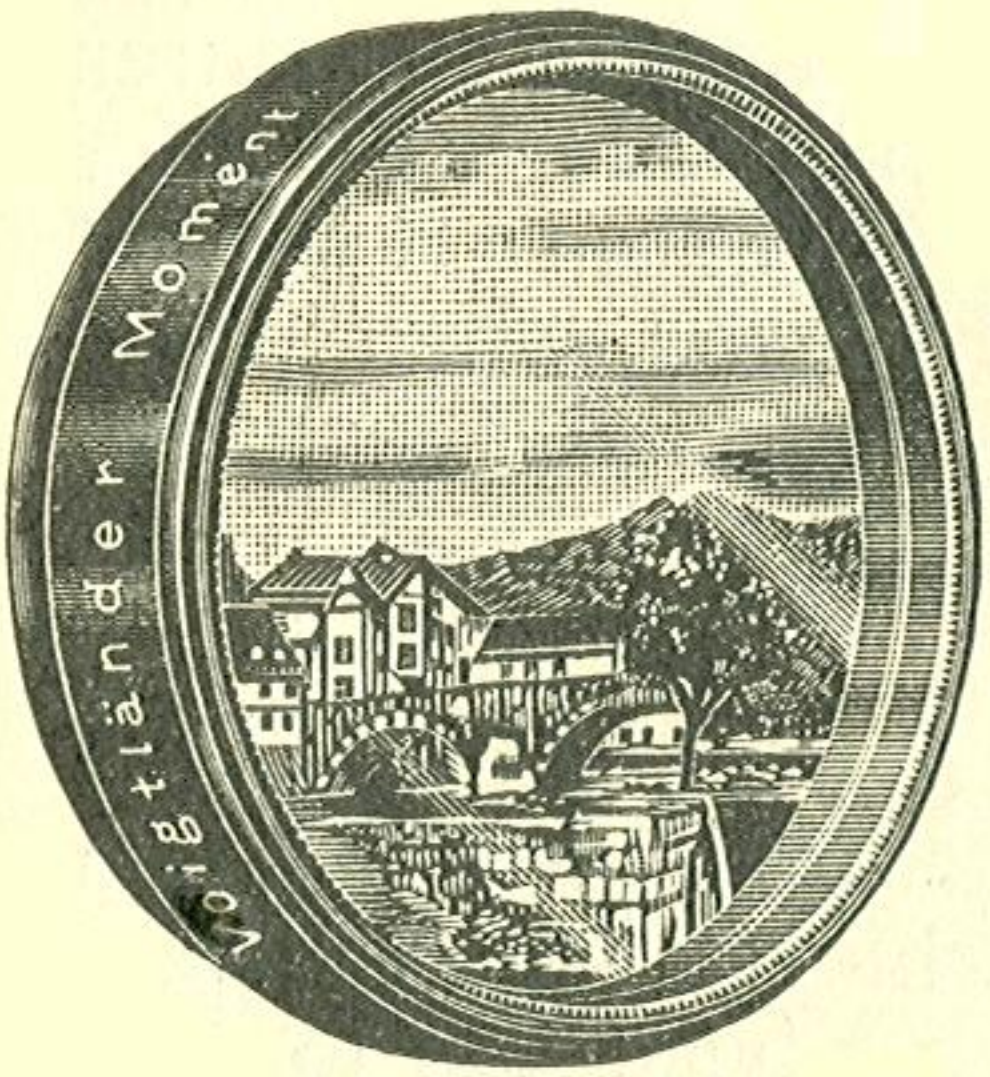
smoothly without a jerk. If you find that you are moving the camera when releasing with this lever, you had better use the wire release (fig. 17) which should be held in a gentle curve so that the movement of the hand is not transferred to the camera.

Exposures of 1/25 th sec. and shorter can quite easily be made out of the hand. If you have to expose longer, the camera must stand still so that you will either use the leg 6 (fig. 5) to stand the camera on a table or other flat surface, or the camera should be screwed on a tripod. For the latter eventuality two bushes are built into the camera, one in the base-board and one in the side of the body. Should the screw on the tripod be too long, it must be shortened or a washer must be placed underneath the camera as it is otherwise possible to damage the thread.

Exposure

A Voigtländer Exposure Calculator is included with every Bessa Camera F/4.5 and can easily be carried in your pocket. The advantage of this Exposure Calculator as opposed to others of the same

type is that there is only one slide to be moved in order to find the correct exposure without reckoning. The exposure values are liberal so that under exposure need not be feared.



Voigtländer Yellow Filters

A white heavy sky, black flowers, grey fruit blossom against the dead white sky, pale, expressionless eyes and heavy freckles are things that no one wishes to see in their pictures. The colours of nature will only have the right tone values in your pictures, if you use really orthochromatic films. Be sure, therefore, that your films have not only "Orthochromatic" printed on the box, but really are colour sensitive.

The orthochromatism of the film cannot be fully utilised unless the blue rays are to a certain extent cut down by a

yellow filter. Do not take any filter but be sure that you have a Voigtländer Yellow Filter which is in a special mount to fit over the lens of your Bessa. Generally you will use the "Moment" filter which increases the exposure to about double so that instantaneous exposures are often possible. The "Normal" filter requires an exposure of about 5 × normal and should only be used when particularly strong correction is required.

To Conclude

We want you to get the best possible results from your Bessa Camera and this aim can best be achieved step by step. We would therefore advise you to give the developing and printing of your films to your dealer — at least at the beginning —. The correct development of a film is the most certain test for the mastery of exposure technique. The exposure — and we must always remember this — is the foundation of the photographic picture. If you have any difficulties, your dealer will be very pleased to help you.

P r i n t e d i n G e r m a n y

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