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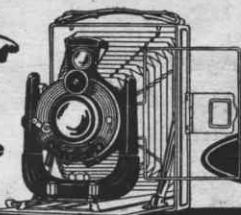
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Voigtländer

**3¹/₂ x 2¹/₂ and
1¹/₄ Plate**



Instructions for use

Voigtländer & Sohn Aktiengesellschaft

Nr. 3255/136 engl.

Introduction

A Voigtlander Camera is an instrument that will last a lifetime if it is used correctly. This booklet is written as a guide to the user of such a camera.

Do not look on a camera as a new toy, turning, screwing and moving every possible part, but read these lines of advice very carefully and you will have no trouble; and the instrument will be a source of constant pleasure.

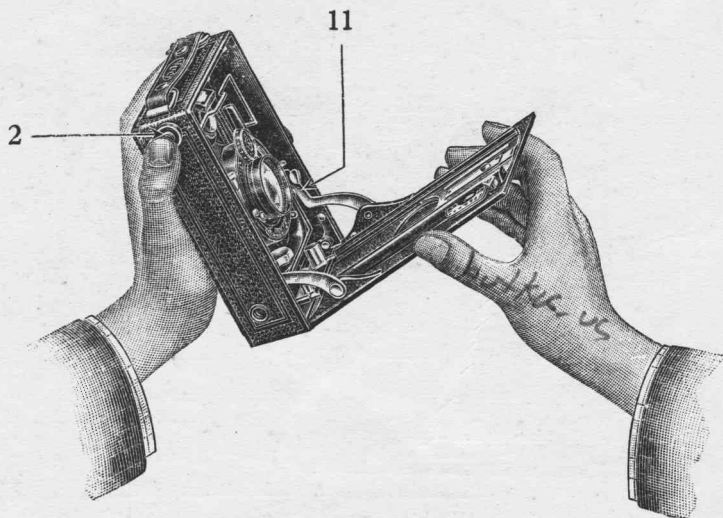


fig. 1. Opening the camera

How To Open the Camera

To open the camera hold it with the left hand so that your thumb touches the small metal ring No. 2 (fig. 1) which protects the opening catch and thus prevents accidental opening. By pressing the inner button, the base-board will swing out and is then pulled down until the struts 11 (fig. 1) engage on each side; the base-board will then be at right angles with the camera body.

The "U" front 3 (fig. 2) is pulled out next by the two finger grips 5 (fig. 2). These are taken by the thumb and forefinger and pulled out until stopped by the spring 12 (fig. 2). At this position the camera is in focus for "Infinity" (∞) that is, any distance over 50 feet. It is most important that the front is drawn out until the spring holds it in position, otherwise the pictures will not be sharp.

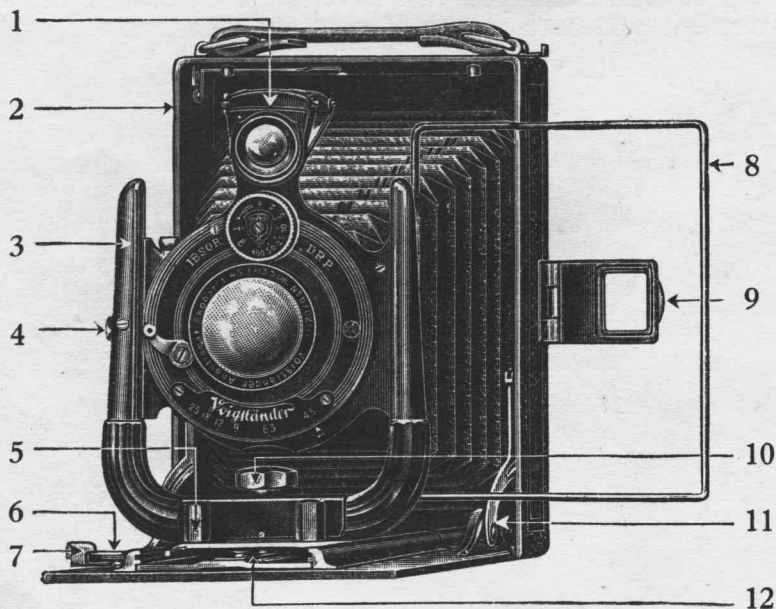


fig. 2. Working parts of the camera

Focussing

Instead of the usual rack and pinion knob, a Radial lever focussing movement is provided.

To focus the camera for near objects, press down the ribbed button 7 (fig. 2), and while pressing, move it backwards until the point of the lever is on the dot against whatever distance is desired. Fig. 3 above illustrates two different positions of the pointer: infinity (∞) and 7 feet respectively.

For critical focussing it is better to use the ground glass focussing screen. This applies particularly when close-up pictures are to be taken or when it is difficult to see the image in the finder and one desires to compose the picture to obtain the best results.

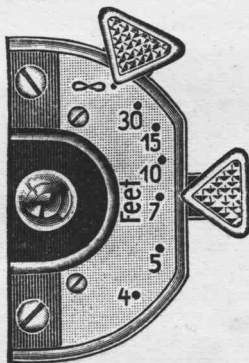


fig. 3. Radial lever and focussing scale

Focussing Screen and Hood

By pressing spring 13 (fig. 4) aside with the finger, the hood will automatically spring open, thus revealing the

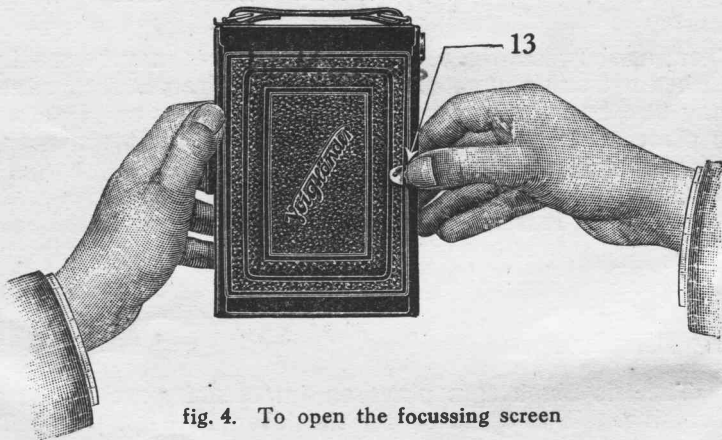


fig. 4. To open the focussing screen

ground-glass screen and forming a hood to make inspection of the image on the screen easier.

The fact that the focussing screen may be removed and replaced by another will be appreciated in the event of breakage of the ground-glass. The broken pieces of the latter may then be removed by taking the frame of the ground-glass in the two hands with the ground-glass on the far side.

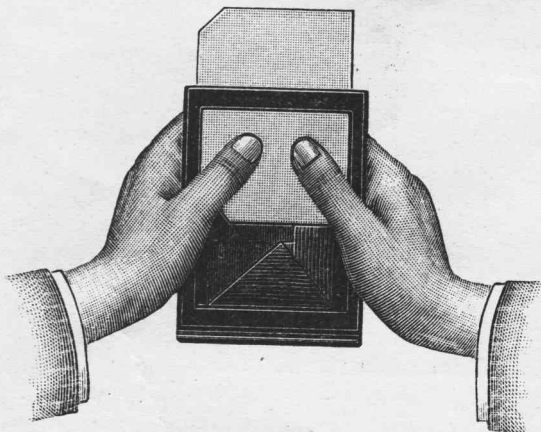


fig. 5. To exchange the broken focussing screen

Then, as shown in fig. 5, the separate pieces may be readily pushed out on the open side of the screen frame. A dryplate may now be taken from one of the dark-slides and inserted in place of the focussing screen, emulsion side towards the lens, otherwise the picture will not be sharp.

On replacing the temporary screen by a proper fine-grain ground-glass, it is well to cut off two corners, as in the case of the screen sent out with the camera, for ready escape of the air when the bellows are closed.

Iris Diaphragm

The iris diaphragm plays an important part in sharp focussing. It is operated by the lever 17 (figs. 6 and 7)

attached to the shutter and allows the aperture of the lens to be reduced as required. The lever 17 shows the apertures (i. e. stops) on a scale.

The chief purpose of the stop is to extend the depth of focus, which question is dealt with at greater length in the section "Depth of Focus". It is also used when the lens is moved up or down or to one side or the other from its central position. It then improves the sharpness of definition at the edge of the field which is thus displaced. The third use of the stop, but one seldom needed, is for stopping down in very bright light so as to avoid over-exposure of the plate. This is done if the speed of the shutter is not high enough to cut down the exposure to the required time. By stopping down to obtain greater depth of focus, a longer exposure is always required, so that in many cases there are limits to the extent to which this can be done.

Depth of Focus

The lenses fitted to our cameras are designed to give at full aperture a sharp picture up to the edges of any object lying in the plane which is focussed on. But when it is required to obtain sharp definition, of objects at different distances from the camera at the same time, the "depth of focus" needs to be extended over a number of planes in the object space and the lens must be stopped down. This applies to all lenses.

When focussing on a given distance each lens aperture corresponds with a certain range of depth of focus, which becomes greater as the lens is stopped down. The aim of the photographer is to adjust the stop and the distance focussed on so that as much as possible of the subject falls within this range (or region) of depth of focus.

A glance on the ground-glass will show that, when stopping down, the depth of focus extends far less towards the camera than towards the extreme distance. For this reason focussing is done, at the outset, on objects which are relatively near. This applies also when there is little scope for stopping down on account of the light or movement of the subject, since an unsharp foreground conflicts with the

natural sensation experienced by our eyes, which are accustomed to perceive a near object more clearly than one a long way off.

On every "VAG" camera is an engraved scale of depth of focus 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 the particular focus and stop values give you.

Shutter

The camera is equipped with either Embezet or Ibsor shutter. The following instructions for the use of the shutter should be carefully studied.

Embezet Shutter with self-timer (fig. 6)

The speed is regulated by means of the speed dial 16, on which the figures *T* (for long time exposures) and *B*

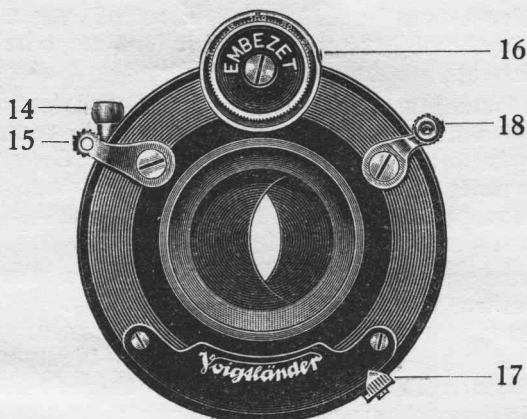


fig. 6. Embezet-Shutter

(for short time exposures) as well as those for instantaneous exposures ($\frac{1}{100}$, $\frac{1}{50}$, $\frac{1}{25}$) are engraved. The speeds, although fractions of a second, are written as whole numbers to make the reading easier.

Instantaneous exposures: The speed is regulated by turning the dial 16 right or left so that the required speed is just above the mark on the dial below it. In the right position one feels a little click. The shutter is now ready for making the exposure which is done by pressing the finger lever 15 or operating the cable release screwed into socket 14.

Time exposures: Turn dial until letter *B* is opposite the indicator; by pressing down the cable release or the finger release, the shutter opens and remains thus for as long as the pressure is exercised. If one intends to give an exposure of three seconds, count "one little second, two little seconds, three little seconds", as quickly as one usually speaks. When saying "one" press the trigger and at the conclusion of the phrase, the pressure is released by letting the lever come up.

If the letter "*T*" is above the pointer, the shutter opens by operating the finger release 15 or the cable release and remains open until the release is pressed a second time. This position is used when giving exposures of anything over twenty seconds or thereabouts; for instance, night pictures which may need exposures of several minutes, and also for flashlight exposures where the shutter is left open and the flash makes the actual exposure.

Self-timer: When giving instantaneous exposures of $\frac{1}{100}$, $\frac{1}{50}$ and $\frac{1}{25}$ sec. this shutter may be released automatically by means of a delay mechanism, so that one can take one's own portrait. The shutter having been set to the required speed, it is tensioned by pressing the lever 18 (with red knob) as far as it will go. The release trigger 15 or the cable release is then operated as for an ordinary exposure, but owing to the action of the delay mechanism the exposure does not take place until after the expiry of about 10 or 11 secs.

In the case when the delay mechanism has been set as just directed but for some reason is not required, the lens should be firmly covered with the palm of the hand, thus

allowing of the shutter being operated without exposing the film. It is best not to keep the delay mechanism tensioned.

Ibsor-Shutter (fig. 7)

The Ibsor shutter is likewise automatic in action, but not fitted with a self-timer. In addition to short and long time exposures, it gives instantaneous exposures from 1 to $\frac{1}{125}$ sec. It is manipulated in the same way as the Embezet.



fig. 7. Ibsor-Shutter

Exposure

The right exposure, which is the most essential factor in photography, depends on three points:

1. Opening of the iris diaphragm.
2. Speed of the plate.
3. Value of the actinic light.

We supply with each camera an exposure calculator, with which the time of exposure may be quickly and easily ascertained.

Finders

The Voigtlander Vag camera is fitted with two different kinds of finder, which are used as follows:

Direct-vision Finder. This consists of a wire frame (8, fig. 2) attached to the right-hand side of the lens-front (viewed from the front) and an eye-piece 9 (fig. 2) placed on the right-hand long side of the camera-back. When not in use, the wire-frame encloses the lens panel. It is brought into the working position by turning it outwards through an angle of 180° and is then held in position by springs. The eye-piece has likewise a spring hinge, and for use, is turned up parallel with the wire-frame. In order to include the correct part of the subject, the eye must be placed so that the outlines of the frame coincide with the mask of the eye-piece.

The direct-vision finder shows the boundaries of the picture with great accuracy even when the rising or falling movement of the lens is used. The only case in which it does not do so is that of very near objects, owing to the unavoidable greater difference between the positions of lens and finder relatively to the subject. A further advantage is that the camera is used at the eye level, thereby conducing to better perspective in most cases. For these reasons it is well to use the direct-vision finder whenever possible.

Brilliant Finder. When taking pictures at the level of the chest, the brilliant finder (1, fig. 2) is used, in the normal position for upright pictures, and after turning through a right angle for oblong pictures. The picture is viewed from the normal viewing distance of about 10 inches, taking care to place the eye directly above the centre of the finder. The mask on the top of the finder is specially designed to show both the upright and oblong pictures.

The small but bright picture in the finder can be magnified three or four times by fitting on a Finder Magnifier (see "Useful Accessories" at end of this booklet). When closing the camera the brilliant finder must always be in its normal position (for upright pictures), otherwise the camera will be damaged.

Holding the Camera

In cases when some attractive subject has to be snapped at the right instant and without attracting too much attention, the camera is used in the hand. Needless to say one must have presence of mind and, especially, confidence in the apparatus. It is therefore well to practise all

the required movements with the unloaded camera until they can be done without thinking about them.

Whilst opening and focussing the camera, a steady position must be taken up, since any slight wobble of the camera during the exposure would give rise to pictures with double outlines. In using the direct-vision finder, the camera is grasped with the left hand on the baseboard for upright pictures, whilst for oblong pictures it is held with the right hand on the top side of the body. At the same time it is most necessary to give further support to the camera so that the elbows should be pressed firmly against the body. When taking upright pictures it is usually well to support the camera against the forehead and the bridge of the nose; with upright pictures, against the chin or cheek-bone and nose, according to which it is found most convenient for looking through the diopter.

In viewing the subject in the brilliant finder, the camera is held, for both upright and oblong pictures, with the left hand on the baseboard. The camera back is pressed against the chest.

A simple but practical expedient may be recommended to those who have not a steady hand. This is just a string or cord, 5 to 6 ft in length; on the upper end is a loop made so that it can easily be made larger or smaller. In taking upright pictures, this loop is put round the baseboard between the lens front and the struts; for oblong pictures, it is put round the turned up diopter. When making an exposure, the free (lower) end of the string is pressed under the foot so that the string is pulled taut when holding the camera in the correct position.

In operating the shutter by lever or trigger, any movement of the hand is liable to be communicated to the camera, so that the safest course is to use the flexible cable release, held in a wide curve. Before making the exposure, take a deep breath inwards and then out, since the body is most at rest after the latter. By taking the required care, exposures of $\frac{1}{25}$ sec. or less may be given with the camera held in the hand.

In circumstances where there is time for previous preparation for the exposure, particularly as regards careful fo-

cussing on the ground glass, the camera is best screwed to a tripod. If need be, it may be placed on a table or other flat surface. The camera body is provided with two screwed "bushes", one for upright pictures and the other for oblong pictures.

When first screwing to the tripod, make certain that the tripod screw is not too long for the bush, otherwise the thread is easily damaged. If the screw on the tripod is too long it must be shortened or a little packing fitted.

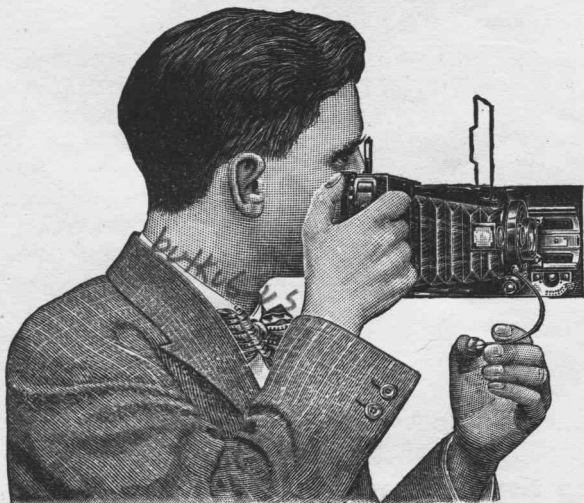
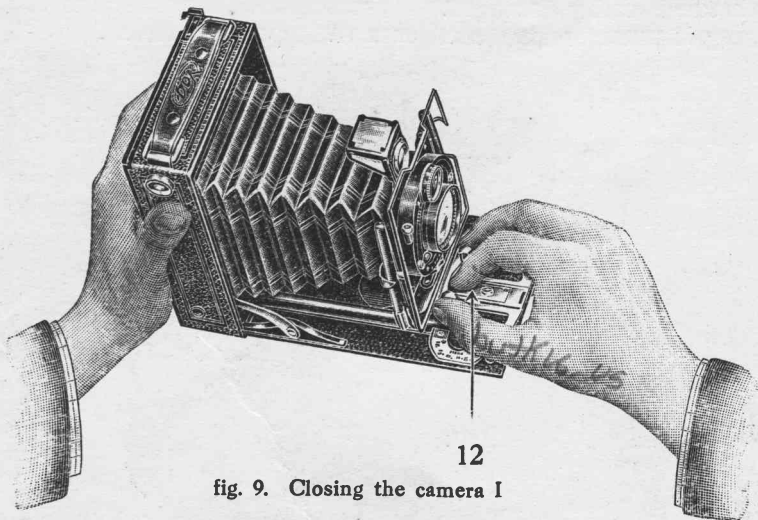


fig. 8. How to hold the camera when taking oblong pictures

Rise and Fall of Lens

In order to avoid "drunken lines" in architectural and similar subjects, care must be given to see that the ground-glass is vertical, but in this position of the camera, too much foreground is included as a rule. To reduce the amount of foreground, the lens is raised in its front, which, when taking oblong pictures, is done by using the cross-front movement. This rise or fall adjustment is made in the required direction by moving the lens, along with the shutter, above or below the central position, which latter is denoted by two engraved

dots. Before the lens can be shifted side-ways it is necessary to release the nut 10 (fig. 2) by turning it to the left. This is best done by gripping it with the thumb and first finger of the right hand. The whole lens-front, with the shutter, can then be moved to right or left in its guides. When so adjusted, the nut 10 must be tightened by turning it to the right.



12
fig. 9. Closing the camera I

Closing the Camera

Before closing the camera, every part of the camera has to be in its normal position.

1. See that the **RADIAL LEVER IS RIGHT HOME** on the infinity mark.
2. See that the **FRAME FINDER IS IN ITS RESTING PLACE.**
3. See that the **BRILLIANT FINDER IS IN POSITION** as used for vertical pictures.
4. See that the **RISING AND CROSS FRONT IS CENTRAL.**
5. See that the **BELLOWS ARE IN THE PROPER POSITION**, otherwise they are likely to be damaged if the camera is closed.

Having observed the above five points, take the two finger grips 5 with thumb and second finger, and release the lens front from its catch by pressing with the forefinger on the spring 12 (fig. 9). Now the lens-front may be readily pushed into the body. The bellows and brilliant finder fold automatically into place as this is done.

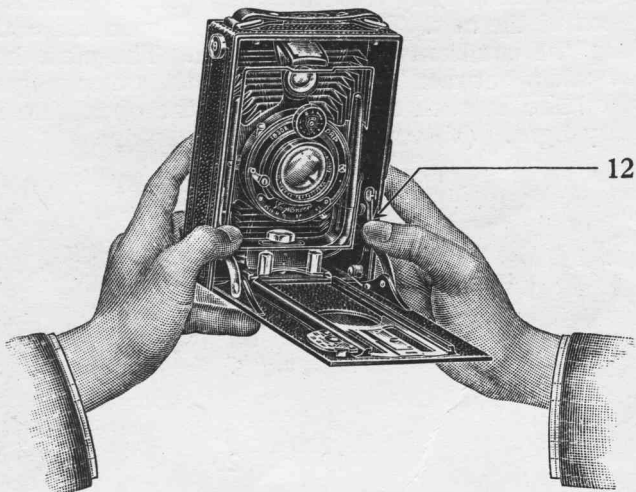


fig. 10. Closing the camera II

It is important that the lens-front is entirely in the camera body before turning up the base-board; if not, the runners will be bent. All being in order, hold the camera with both hands so that the first and second fingers lie on the back whilst the underneath part is supported by the two third fingers. Gentle pressure of the thumbs on the two struts 11 (fig. 10) will now release these from the catches, so that the base-board can be turned up.

While Voigtlander cameras are solidly and substantially built, yet **FORCE MUST NOT BE USED**. They are instruments of precision which naturally call for proper handling.

Loading the Plate holders

The loading of the plate holder takes place in the dark-room or in a fully darkened place. Each time before using all dust should be removed from the interior of the slide and the velvet, as every speck of dust lying on the plate during exposure causes clear glass spots on the negative.

In the shadow away from the ruby lamp a plate is now taken out of the box. This is also carefully dusted without touching the emulsion with the fingers. The plate holder is then taken between the thumb and the other fingers of the left hand in such a manner that the open side faces the ruby light. (Velvet to the top.)

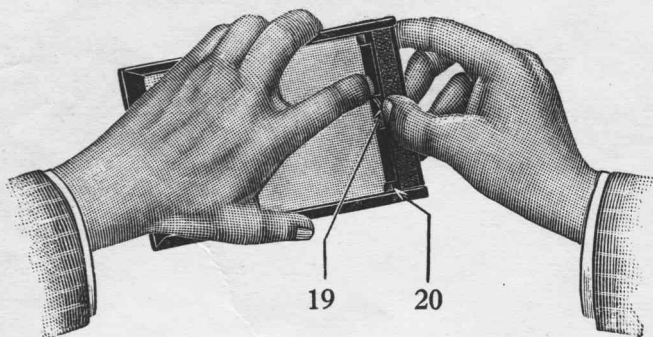


fig. 11. Inserting the plate

With the right hand the long sides of the plate are gripped (emulsion facing the palm of the hand) and the plate is placed in the groove at the bottom. (Emulsion to the front.) The right thumb lifts the catch 19 (fig. 11), to be seen under the velvet strip. As soon as the plate is in position against the back of the plate holder, the catch can be returned to its ordinary position and the plate is then held firmly.

The plate holders have springs on the interior of the back by means of which the plates are pressed against the catches. The plate lies strictly in the focal plane when the springs fulfill this purpose. To avoid blurred pictures it is therefore advisable — especially with new plate holders — to lift the springs a little.

When closing the plate holder, care should be taken to see that the slide runs correctly in the two side grooves and that it is thrust far enough into the groove on the lower narrow side. It must be perfectly flat: a slide which is buckled or bent may give rise to difficulty in closing and may scratch the plates.

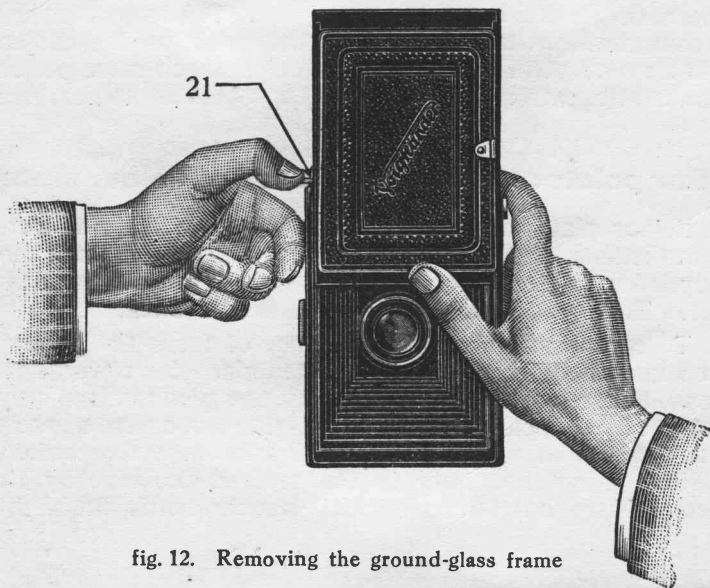


fig. 12. Removing the ground-glass frame

Loading of the plate holders should only be done shortly before the camera is to be used. It is not advisable to leave plates in the plate holders for any length of time. Chemical action takes place and the sensitive material suffers.

If the camera is not to be used for a time, remove the plates from the plate holders and store the plate holders with the sheath entirely withdrawn. This allows the velvet, which forms the light trap, to rise, and the dark slides will be absolutely safe for light.

Inserting the Plate holders

Pull out the focussing-screen frame (fig. 12). Insert the plate holder in its place with the slide turned towards

the lens. Now turn the catch 21 back, and, after making sure that the lens is not open, pull out the slide of the plate holder, the catch preventing the plate holder itself from being shifted.

It is a mistake to pull out the slide only so far that it just uncovers the plate and remains in the light-trap. The slide should be pulled right out. The reason for this is that the light-trap formed by the push on the camera against that let in to the plate holder is much more perfect than that between the slide and the push on the camera.

A few points of advice for the use of Colour plates

Colour plates are inserted with the sensitive side away from the lens, glass-side towards the lens, and the black card supplied with the colour plate has to be left on its sensitive side. This goes towards the plate holder back.

To compensate for this difference of focus the ground-glass must be withdrawn and inserted glass-side towards the lens. Focussing has to be done by the ground-glass only, and not by the scale. For all colour-plates of course a special filter is required, which is supplied by the respective makers. A filter is not necessary in the case of exposure by the special Nitrophot lamps or with panchromatic flashlight.

Sundry Hints

In time the instrument will accumulate dust which naturally will adhere to the lens. This is easily removed with a clean handkerchief which has already been through the wash and has no dressing in it.

In colder climates the change of temperature between outdoor and indoor is considerable and very often results in the steaming of the lens. It is best then to wait until the moisture has apparently disappeared from the lens and then proceed to wipe lightly with the handkerchief. In very bad cases it may happen that also the inner surfaces of the lenses may collect moisture. Then carefully unscrew the two elements of the lens from the shutter.

On no account must any attempt be made to unscrew the separate parts of the front and rear lens elements for it is beyond the skill of even an experienced amateur to put them together again so perfectly as to restore their original optical quality. Anyone who tries the experiment in disregard of this caution will discover to his chagrin the extreme precision with which the assemblage of a lens of this kind is done.

Very often dust collects between the folds of the bellows. A good camel hair brush will remove all this dirt. This is best done by removing the focussing screen, opening the shutter, unscrewing the lens cells and then applying the brush to the inside of the bellows. By blowing at the same time through the open shutter, the dust is readily dislodged, especially if the outside of the bellows be simultaneously tapped gently with the finger.

Useful Accessories

The following accessories are not absolutely necessary, but will greatly improve the final results.

Plate Holders

Each camera is supplied with three plate holders. When going on a day's trip six plate holders may be required. On longer journeys twelve may be required. These can be obtained at any time. When ordering only say: So many plate holders (standard fitting) required for the Vag Camera $3\frac{1}{2} \times 2\frac{1}{2}$ " (6.5×9 cm.), $\frac{1}{4}$ plate, or 9×12 cm., whichever size it is.

Film Pack Adapter

We also draw attention to Film Packs, for which we supply a Film Pack Adapter. These have the advantage of being able to reload twelve in daylight. Of course, care has to be taken not to do this in brilliant sunshine. With most film packs there is no focal difference and the same scale of the camera can be used as for the plates. When ordering say: Supply Film Pack Adapter (standard fitting) for the Vag Camera $3\frac{1}{2} \times 2\frac{1}{2}$ ", $\frac{1}{4}$ plate or 9×12 cm., whichever size is required.



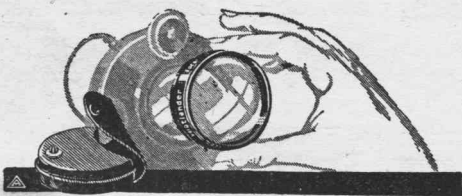
Yellow Filters

Many amateur photographs are unpleasing on account of such defects as bad skies, black flowers in a meadow

scene, grey fruit blossoms against a white sky, glaringly white eyes or pronounced freckles in a portrait.

If you would obtain the natural effects of clouds, flowers and landscapes you must use an orthochromatic plate or film. The same applies to getting good renderings of blue eyes, blond hair and coloured clothing and to subduing the appearance of freckles. But in using such plate or film it is indispensable to employ a good yellow filter on the lens.

Voigtlander Yellow Filters fitting exactly any Voigtlander lens are supplied in two grades. For ordinary exposures use the "Moment" Filter ($2\times$), to achieve a more prominent effect the "Normal" Filter ($5\times$). When ordering please state: Camera (Vag $3\frac{1}{2}\times 2\frac{1}{2}$ " or $\frac{1}{4}$ plate), lens (Voigtar 1:6.3 or Skopar 1:4.5) and the density Moment or Normal.



Focar Lens

Wide-angle Lenses

When using the "Vag" to include a greater amount of subject from a given standpoint or when working in confined situations, it is necessary to employ a shorter focal length of lens. The focal length of the lens fitted to the

"Vag" may be shortened in the easiest manner by using a Focar lens, which is simply attached in front of the camera objective.

The following are supplied for use with

Skopar f/4.5 lens of $4\frac{1}{8}$ ins. and $5\frac{5}{16}$ ins. focus.

For $4\frac{1}{8}$ ins: Focar lens No. 30; extends the image field about 1.18 times.

For $5\frac{5}{16}$ ins: Focar lens No. 31: extends the image field about 1.18 times.

Attachments for increasing the focal length can be used only with double-extension cameras and so are not applicable to the "Vag". Nor can the wide-angle Focar be used with the f/6.3 Voigtar; owing to the somewhat long shape of this lens, the field of image would be cut off by the wide-angle attachment.

The Focar Portrait Attachment

In the ordinary way the focussing scale of the "Vag" camera extends from "infinity" to 3.5 or 4 ft. But to photograph much nearer objects such as portraits and still-life all that is necessary is to fit a Focar Portrait Attachment on the lens. The subjects then come out "big in the picture" and are very much more effective.

Vag Camera $3\frac{1}{2}'' \times 2\frac{1}{2}''$

F/4.5 Skopar,
 $4\frac{1}{8}$ ins. (10.5 cm.) focus

F/6.3 Voigtar,
 $4\frac{1}{8}$ ins. (10.5 cm.) focus

In using the Focar Portrait Attachment No. 52 and

setting pointer to the mark on scale	focus is obtained on
--------------------------------------	----------------------

∞	39 ins.
25 feet	$34\frac{1}{2}''$
12 "	31 "
8 "	28 "
6 "	$25\frac{1}{2}''$
4.5 "	23 "
3.5 "	$20\frac{1}{2}''$

Vag Camera $\frac{1}{4}$ plate

(or 9×12 cm.)

F/4.5 Skopar,
 $5\frac{1}{4}$ ins. (13.5 cm.) focus

F/6.3 Voigtar,
 $5\frac{1}{4}$ ins. (13.5 cm.) focus

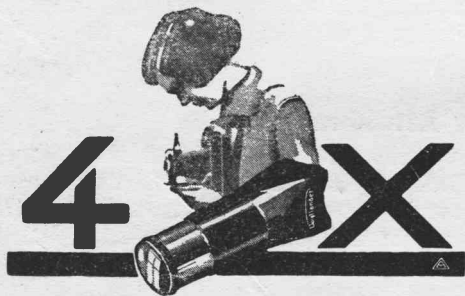
In using the Focar Portrait Attachment No. 60 (Skopar) or No. 61 (Voigtar) and

setting pointer to the mark on scale	focus is obtained on
--------------------------------------	----------------------

∞	39 ins.
30 feet	$35\frac{1}{2}''$
15 "	$32\frac{1}{2}''$
10 "	30 "
7 "	27 "
5 "	24 "
4 "	$21\frac{1}{2}''$

The use of the Focar Portrait Attachment makes no material difference to the exposures nor to the sharpness of the definition. All it does is to shorten the focal length slightly and so allow of focussing on near objects as shown on the table on page 21.

The distances of such close objects must of course be very accurately judged in order to take advantage of the use of the focussing scale in this way. It is best to ascertain the distance with a tape measure. When taking portraits so close to the subject it is well to take a standpoint somewhat to one side so as to get a sharp and natural picture.



Finder Magnifier

The picture in the Brilliant finder is necessarily rather small and it is difficult for some people to see it. The Magnifier

overcomes this trouble. By putting the Magnifier on top of the finder four times magnification is obtained.

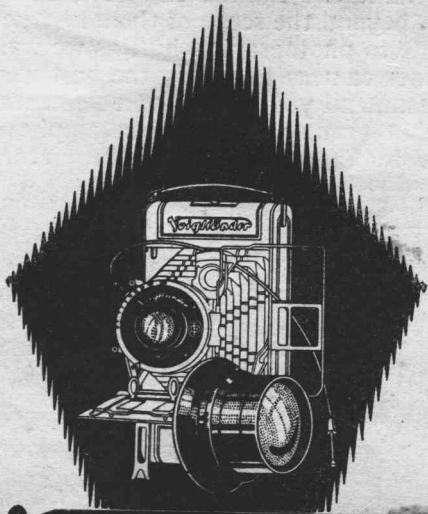
This Magnifier is so small that it can be carried in the vest pocket. The fitting is quite simple slipping it on top of the finder.

When ordering say "Voigtlander Finder Magnifier" and camera size. (Vag: $3\frac{1}{2}'' \times 2\frac{1}{2}''$ or $\frac{1}{4}$ plate.)

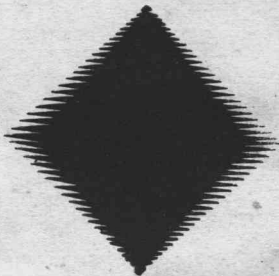
A Last Word

We all realise that every packet of plates contains a dozen possible pictures. The art consists in knowing how to produce them. If you know when and why to use the full aperture and when to stop down, when to expose for a longer or shorter time, you will get many more good negatives from a dozen plates than people who just press the

button and think the camera will look after everything. It is of course beyond the scope of these instructions to offer a general guide to photography, but, as we want every user of a Voigtlander camera to obtain the best from his instrument, we recommend you to study an elementary text book of amateur photography. You will be amply repaid for the slight trouble by the excellence of the pictures you take.



Voigtländer



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