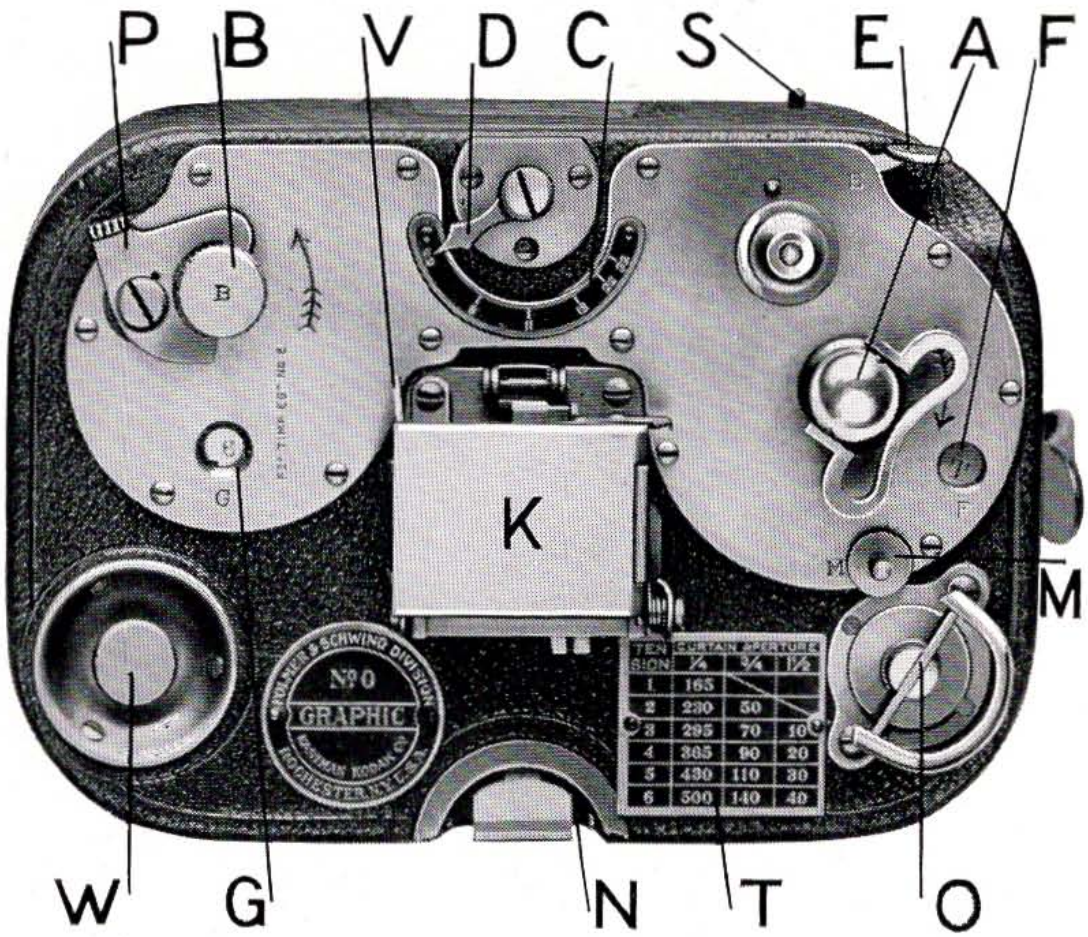
DIRECTIONS
FOR OPERATING
No. 0 GRAPHIC

Instructions for operating the

No. 0 Graphic Camera

EASTMAN KODAK COMPANY
FOLMER & SCHWING DEPARTMENT
ROCHESTER, N. Y.


P
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GRAPHIC
ROCHESTER N.Y. U.S.A.
TEN SION
CURTAIN APERTURE
¼
¾
1½
1 165
2 230 50
3 295 70 10
4 365 90 20
5 430 110 30
6 500 140 40

THE operation of the No. O Graphic Camera is extremely simple, and careful reading of the following instructions should be followed by successful results.

There is no necessity for adjusting the focus of the lens—all objects at varying distances from the camera will be rendered with clean cut definition in the negative.

The manipulation of the camera, when making pictures, is reduced to the 6 operations following:

FIRST—Select a suitable shutter speed from one of the Exposure Tables.

SECOND:—Set the shutter.

THIRD:—Sight the subject in the finder.

FOURTH:—Release the shutter.

FIFTH:—Wind the film.

SIXTH:—Re-set the shutter.

The Lens The No. O Graphic Fixed Focus Camera is fitted with a 3-inch, Kodak Anastigmat Lens *f*.6.3. An index pointer **D,** is provided for operating the lens stops from the outside of the camera. The different lens stops,—*f*.6.3, *f*.8, *f*.11, *f*.16, *f*.22, *f*.32, are shown on a segment scale **C,** located beneath the index pointer.

The Shutter

The shutter is the regular Graflex Focal Plane Shutter. The curtain contains 4 apertures ranging from full opening 0 to ¼ of an inch. When the curtain aperture 0, is registered at **F,** by turning key **A** to the right (in the direction of the arrow), the shutter is wide open. The other apertures 1½, ¾, and ¼, are in turn registered at **F,** as the key **A** is turned.

Shutter Speeds

The etched shutter speed table **T,** attached to each camera, gives approximate shutter speeds, in fractional parts of a second, obtainable with the various combinations of shutter curtain apertures, and tension numbers.

Regulating the Shutter Speed

The speed of the shutter is regulated by varying the tension on the shutter curtain. The degree of tension is regulated by turning the milled head **B,** to the left, until the required tension number appears at **G.** The numbers run from 1 to 6—the highest number indicating the greatest speed. To decrease the shutter speed, release tension on curtain by pushing escapement **P,** back and forth, until the required tension number is registered at **G.**

Instantaneous Exposures To set the shutter for instantaneous exposures, turn key **A** until the curtain aperture indicated on the shutter speed table **T,** for a selected shutter speed, is registered at **F.** Should a smaller curtain aperture than required, be registered at **F,** release the curtain by pressing button **M** toward the winding key **A,** until the required aperture number appears at **F.** When the curtain is released, by the use of button **M,** the film is not exposed, as the automatic lens cover and sky-shade **R,** remains closed.

The Shutter Speed Table

The numbers in the first vertical column indicate the degree of tension on the shutter curtain. The numbers in the top horizontal line represent the width of the curtain apertures. The numbers in the intersecting spaces indicate the duration of exposures, in the fractional parts of a second, obtainable with the various combinations of curtain apertures and tension numbers. For example:—to give an exposure of 1/110 of a second, the ¾ aperture is brought into register at **F,** by winding the curtain with key **A,** or releasing the curtain with button

M; tension 5 is brought into register at **G**, by turning button **B**, or operating the tension escapement **P**. The shutter will then be set for an exposure of 1/110 of a second.

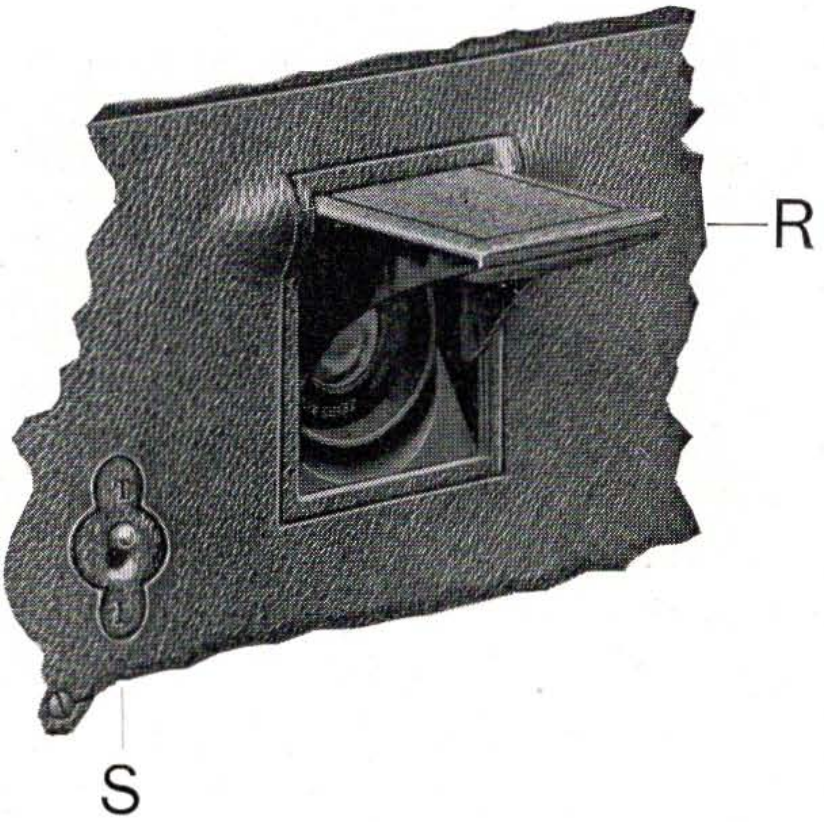
TENSION	CURTAIN APERTURE		
	¼	¾	1½
1	165		
2	230	50	
3	295	70	10
4	365	90	20
5	430	110	30
6	500	140	40

Tension 1 will operate the curtain at ¼ aperture. Tension 1 will not close the shutter with aperture ¾ or 1½. 3 is the lowest tension that will close aperture 1½.

Making the Exposure The exposure is made by one inward pressure of the forefinger upon the exposure lever **E.** To repeat the exposure—turn key **A** until the same aperture number ¾ is again registered at **F,** and make the exposure as before.

Time Exposures

Set the tension at 6. Register the letter **T** at **F,** by winding the curtain with key **A** or releasing it with button **M.** Move the small button **S,** on front of camera, to the top of the slot



nearest to the letter **T,** stamped in the leather, indicating "Time Exposure." An inward pressure on release lever **E** will raise the lens cover **R,** locking it in an elevated position, at the same time automatically releasing the curtain to 0 (open), exposing the film. The exposure is terminated by a

downward pressure on the button **S,** which releases the lens cover **R.**

Loading the Camera Remove the back of camera by simultaneous pressure of the thumb and forefinger upon the top and bottom spring catches, on the removable back, which engage with the depressions in camera body **N, N-1.**

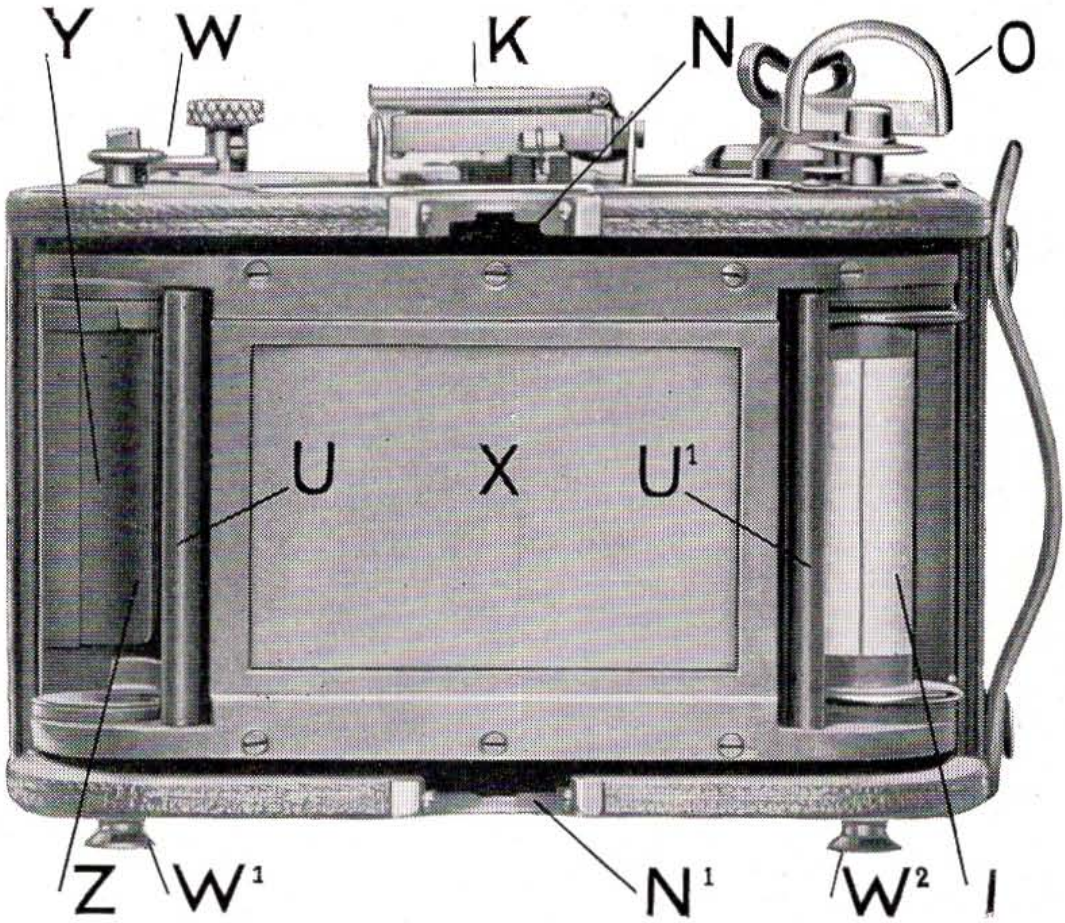
Draw out the top and bottom spool center pins, **W** and **W-1,** as far as they will go; place the roll of film* in the pocket **Y,** with the **slotted end of spool downward** leaving the white paper seal unbroken, press the roll inward against the retarding spring **Z** located at back of pocket **Y,** and at the same time push the spool center pins **W** and **W-1** into the top and bottom ends of film spool.

The springs **Z,** located in both of the film pockets, press against the film spools and serve to hold the film taut as it is wound across the exposure aperture **X.**

Draw out the spool center pin **W-2,** and the spring actuated winding key **O**; drop the empty receiving spool **I** into the pocket with the **slotted end of the spool upward.** Turn the winding key **O** until it springs into

*Eastman N.C. Film Cartridge No. 121, 6 exposures.
Do., 12 exposures.

place in the slot in the upper end of the spool, at the same time push the center pin **W-2** into the bottom end of the spool.



With the winding key **O** turn the empty receiving spool to the left, until the longest side of the slit, lengthwise of the spool, is in position to receive the end of the duplex paper on the roll of film.

Break the white paper seal on the roll of film, and draw the end of the duplex paper

over the rollers **U** and **U-1,** threading it into the slit in the winding spool. Give the key **O** one or two slight turns—enough to firmly bind the end of the paper on the empty receiving spool—taking care that the paper is drawn straight across the rollers and exposure aperture **X,** to the winding spool **I,** so that it will wind evenly between the spool flanges.

Replace the back of camera with the **TOP** side up, (the word "Top" is stamped on the inside of the back) and press the spring catches firmly into locking position in the depressions **N** and **N-1.**

The duplex paper, protecting the roll of film, must be partly wound off, **after the camera is closed,** before any exposures can be made. This is accomplished by slowly turning key **O,** to the left, until a warning hand, printed on the red side of the duplex paper, appears at the little red window on the camera back. This warning hand appears only before the film is wound into position for the first exposure. Therefore, the winding key **O** must be very slowly turned after the warning hand appears, as a precaution against winding the first exposure number past the window.

Immediately after each exposure, the succeeding exposure number should be carefully wound into position at the window, thereby avoiding the possibility of making two exposures upon the same portion of film. After the last exposure of the roll—No. 6 or No. 12--is made, the duplex paper should be wound upon the exposed roll of film, until printed matter appears at the red window. Remove the back of camera, as previously explained; the remaining portion of duplex paper wound, and the end stuck down to the exposed roll with the gummed sticker, which will be found on the end of the duplex paper.

The sealed, exposed roll of film can be removed from the camera by withdrawing the spool center pin **W-2** and the winding key **O.**

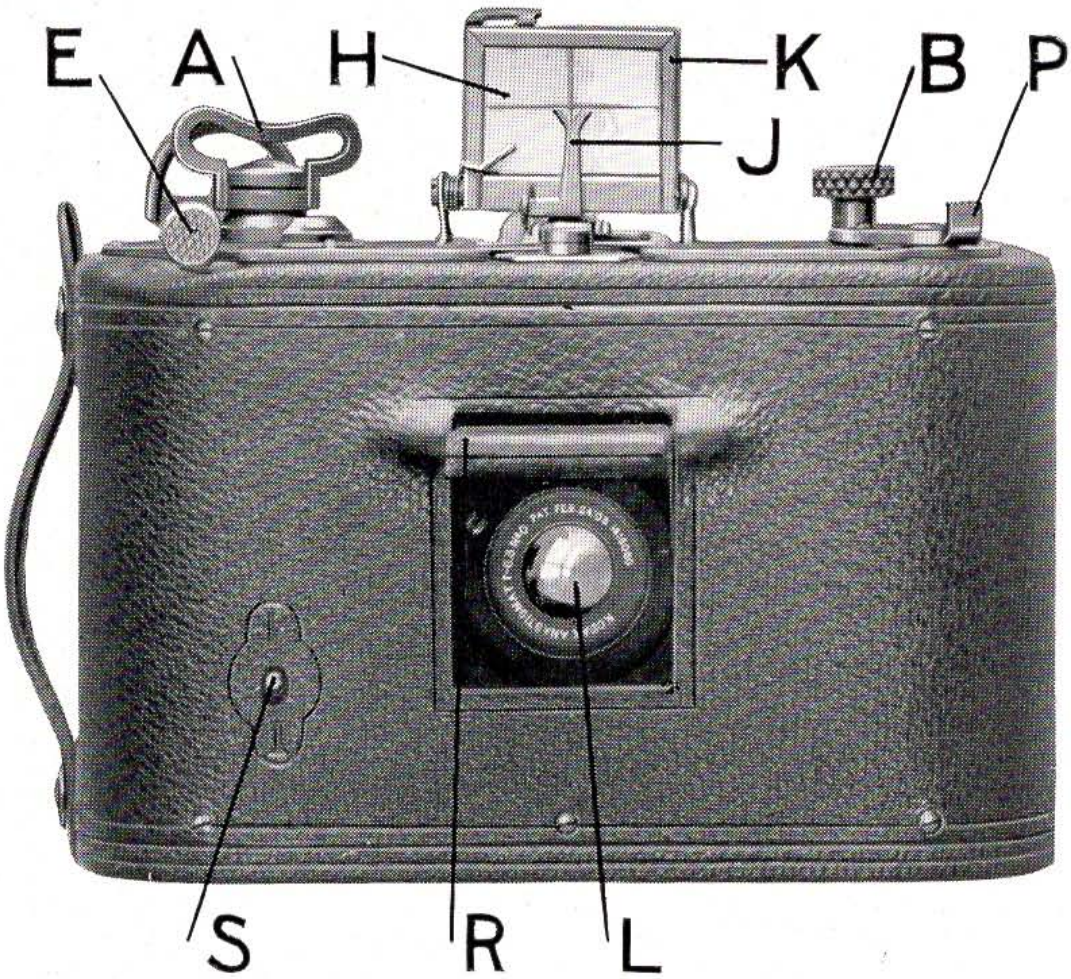
The View Finder

A direct vision view finder **K,** is fitted to the top of the No. O Graphic Camera, as an aid to composition of the subject. When not in use, the finder is compactly closed as shown in illustration on page 11.

To open the finder, press the spring **V.** (See illustration on page 4.)

When used as a direct view finder the mirror is swung straight back, as far as it will go.

If it should be desirable to use the finder at a deceptive angle, the mirror is placed at an angle of 45°. With the mirror in this position the subject can be photographed



at right angles to the line of vision, whereby exposures can be made without the knowledge of the subject.

The subject being photographed is properly centered with the exposure aperture **X,** by means of the horizontal and vertical

lines **H,** engraved on the finder lens, and the central sighting bar **J.**

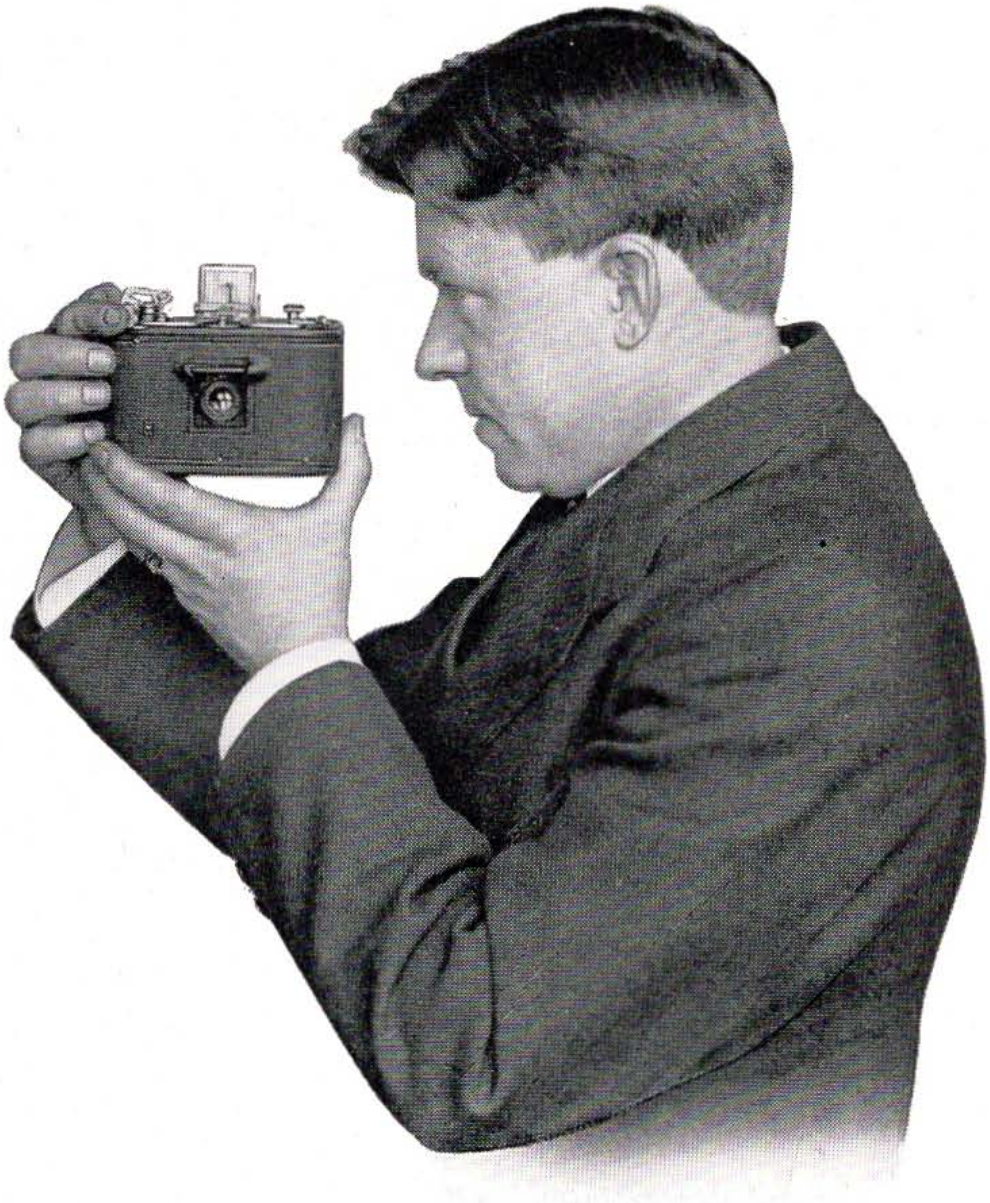
The point where the vertical and horizontal lines intersect is sighted through the Y of the sighting bar and then brought into alignment with the central point of the composition.

The vertical and horizontal lines are also effective as an aid to the proper alignment of vertical and horizontal lines in the subject, such as the horizon in marine views, buildings, etc.

When photographing objects near the ground, the subject can be properly centered by placing the mirror at an angle of 45° and holding the camera near the waist line.

The Camera in Use

After the camera has been loaded, and film for the first exposure wound into position with No. 1 at the little red window, refer to the tables on pages 17 or 20, and select a shutter speed suitable to the subject which is to be photographed. For example: If the subject can be classified as an "Open Park View," on a **bright day** in April between 10 A.M. and 2 P. M. the exposure should be about 1/165 second, curtain aperture ¼, tension 1, and lens stop *f*.6.3.



The No. O Graphic used as a Deceptive Angle Camera

The lens stop *f*.6.3 is suggested for use with the table of shutter speeds unless greater depth of focus—sharp definition of near and distant objects—is desired.

Approximately Correct Exposures with Lens Stop *f*.6.3

Classify the subject being photographed, as nearly as possible, in one of these groups	Lighting Conditions	May July June Aug.	Mar. Sept. Apr. Oct.	Jan. Nov. Feb. Dec.
		9 A.M. to 3 P.M.	10 A.M. to 2 P.M.	11 A.M. to 1 P.M.
Distant Mountains	Bright	500	430	365
Marine Views	Hazy	295	230	165
Aviators	Cloudy	140	110	90
Open Landscape	Bright	295	230	165
Nearby Vessels	Hazy	165	140	110
Views from Trains	Cloudy	110	90	50
Open Park Views	Bright	230	165	140
Nearby Objects	Hazy	140	110	90
Light Streets	Cloudy	90	70	40
Shady Park Views	Bright	165	140	110
Figures in Shade	Hazy	90	70	50
Dark Buildings	Cloudy	50	40	30
Open Woods	Bright	90	70	50
Figures under Piazza	Hazy	50	40	30
Dark City Streets	Cloudy	30	20	10

The following table shows the distance from the camera of the **nearest** object that will be in focus when the various stops are used. All objects beyond the distances given will be sharply defined.

f.6.3	*f*.8	*f*.11	*f*.16	*f*.22
12 ft.	9½ ft.	7 ft.	4½ ft.	3½ ft.

When the lens is stopped down to increase the depth of focus or definition, there must be a relative **decrease** in the shutter speed in order to maintain the same degree of effective illumination upon the exposed film. This is accomplished by **decreasing** the shutter speed given for *f*.6.3, or any other lens stops, about one-half with each succeeding **smaller** lens aperture. For example: Should the exposure 1/165 second, suggested in the previous example, be proven correct with stop *f*.6.3, the relative shutter speeds for the other lens stops will be:

f.6.3	*f*.8	*f*.11	*f*.16	*f*.22
1/165	1/90	1/50	1/30	1/10

If the identical shutter speed indicated by a one-half decrease, or increase in an exposure, is not given on the shutter speed

plate, use the nearest fraction of a second exposure.

Likewise—If a good negative should result from the use of 1/110 second exposure and stop *f*.11, the relative exposure for the larger stops is approximately determined by **increasing** the shutter speed, given for *f*. 11, or any other lens stop, by doubling the speed with each succeeding **larger** lens aperture.

f.6.3	*f*.8	*f*.11	*f*.16	*f*.22
1/430	1/230	**1/110**	1/50	1/20

Shutter Speeds for Stopping Motion at *Right Angles* to Camera

One-third less will stop motion at 45 degrees.

Two-thirds less will stop motion directly toward or from camera.

	Speed of Object per Hour	Distance of Object from Camera	5 Miles	10 Miles	20 Miles	30 Miles	60 Miles
			Feet				
Pedestrians			25	110			
Cattle Grazing			50	90			
Average Views			100	90			
Street Traffic			25	165			
Children Playing			50	90			
Boating			100	90			
Athletics			25	365			
Boat Races			50	165			
Baseball			100	90			
Horse Racing			25	500			
Views from train			50	295			
Motor Boats			100	140			
Auto Races			25				
Fast Trains			50	500			
Aeroplanes			100	265			

Estimate the miles per hour movement of the subject, and the shutter speed for stopping the movement at **right angles** to the camera, will be found in the corresponding subject group opposite the distance of object from the camera.

EXAMPLE:

Subject	Views from train
Speed of Subject	30 miles
Distance of Object	50 feet
Exposure	1/295 second
Lens Stop	*f*.8

The shutter speeds given are necessary to stop the motion. The lens opening must be regulated to meet the prevailing light conditions.

For bright days, it is suggested that stop *f*.8 be used with exposures 1/295 and under, and *f*.6.3 with the higher shutter speeds.

On hazy, or dull days, with same exposure, proportionately larger lens openings should be used.

It is not advisable to operate the shutter at a higher speed than is necessary to stop movement of the subject, thereby gaining the advantage of full exposures and the

ability to use smaller lens openings, which will render greater depth of focus.

To decrease a shutter speed given for movement at right angles to camera, 1/3 for movement at 45 degrees, or 2/3 for on-coming subject, use the second lower speed, on shutter speed plate, for 1/3 less, and the fifth lower exposure for 2/3 less.

EXAMPLE:

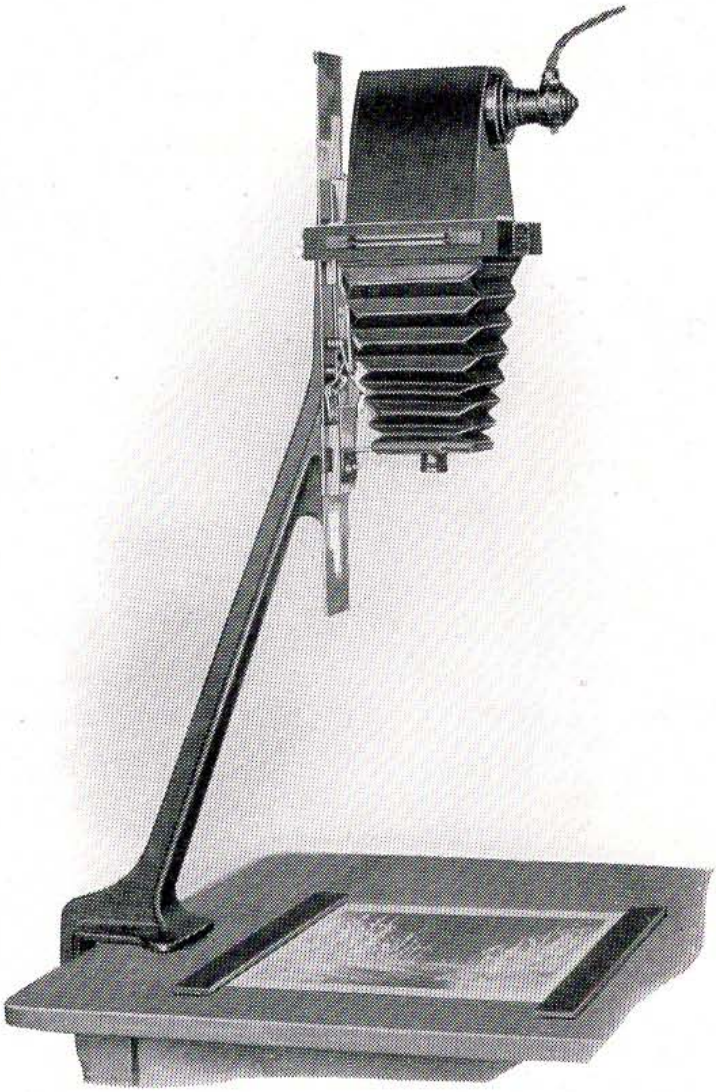
Movement at right angles . .	295
45 degrees; 1/3 less	165
Toward or from camera; 2/3 less	110

ENLARGEMENTS

From No. O Graphic Negatives

One feature which adds greatly to the value of the No. O Graphic Camera, is the fact that negatives made with the instrument possess such remarkable detail in both near and distant objects, that enlargements can be made many times the size of the negative, with all the definition and brilliancy of a contact print. This is due to the fact that the No. O Graphic is fitted with a high-grade Anastigmat Lens of sufficiently

short focus to bring everything within its range into perfect focus.



The Kodak Auto-Focus Enlarger

With the Kodak Auto-Focus Enlarger, prints approximately 5¼″ x 8¼″ or smaller, may be made from No. O Graphic negatives as easily as contact prints.

The Enlarger will also make prints, from negatives up to 4 x 6 inches, from 1½ to 3½ times the dimensions of the negative used.

The Kodak Auto-Focus Enlarger is *always* in focus. The result is that the image is always perfectly sharp, regardless of its size. This eliminates the necessity of focusing.

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7-22-C-500