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*"If it isn't an Eastman,
It isn't a Kodak."*

Picture Taking with the

**Vest Pocket
Autographic
Kodak**
Special

Kodak Anastigmat Lens
f.7.7

Manufactured by
Eastman Kodak Company.
Rochester, N. Y.

KODAK
Trade Mark, 1888.

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

MANUFACTURERS OF

Kodaks,
Brownie Cameras,
Kodioticons,
Kodak Film Tanks,
Kodak Dry Mounting Tissue,
Velox Paper,
Eastman Film,
Eastman Solio Paper,
Eastman Ferro-Prussiate Paper,
Eastman Velvet Bromide Paper,
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Eastman Royal Bromide Paper,
Eastman Standard Bromide Paper,
Eastman Platino Bromide Paper,
Eastman Enameled Bromide Paper,
Eastman Matte-Enamel Bromide Paper,
Eastman Tested Chemicals,
Tripods and
Other Specialties.

TRADE MARKS REG. U. S. PAT. OFF.

March, 1916.

"KODAKERY"

A monthly magazine that teaches how to make better pictures will be sent FREE OF CHARGE to every one who purchases one of our amateur cameras from a dealer in photographic goods, provided this blank is filled out and sent to us within 30 days of the date the camera was purchased.

EASTMAN KODAK COMPANY.

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(Kind of Camera)

from
(Name of dealer)

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Write
name and
address
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N. B.—The magazine will be sent for one year only on above offer. After that the subscription price will be 50 cents per annum, but you are not under the slightest obligation to renew.—E. K. Co.

Form No. 335-16.

TEAR OFF HERE.

Picture Taking

with the

**VEST POCKET
AUTOGRAPHIC
KODAK, *Special***

**Kodak Anastigmat Lens,
f.7.7**

Published by the
EASTMAN KODAK COMPANY,
Rochester, N. Y.

ORDER FILM BY NUMBER

All Kodak Films may be distinguished by the numbers on the ends of the cartons.

The number for film for the Vest Pocket Autographic Kodak *Special* is

A-127

NOTICE

Autographic film can be used in old style Kodaks, old style film can be used in Autographic Kodaks, but to get *autographic results* Autographic film must be used in an Autographic Kodak.

BEFORE LOADING.

Before taking any pictures with the Vest Pocket Autographic Kodak *Special f.7.7*, read the following instructions carefully and make yourself perfectly familiar with the instrument, taking especial care to learn how to operate the shutter. Work it for both time and instantaneous exposures several times before threading up the film.

The first and most important thing for the amateur to bear in mind is that the light which serves to impress the photographic image upon the sensitive film in a small fraction of a second when it comes through the lens, can destroy the film as quickly as it makes the picture. After the film has been developed and all *developer thoroughly washed out*, it may be quickly transferred in subdued white light to the fixing bath without injury. Throughout all the operation of loading and unloading, be extremely careful to keep the red paper wound tightly around the film to prevent the admission of light.

EASTMAN KODAK COMPANY.

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PART I—Loading.

PART II—Making the Exposures.

PART III—Removing the Film.

PART IV—Developing.

PART V—Printing on Velox Paper.

PART VI—Mounting.

PART I.

LOADING THE KODAK.

The film for the Vest Pocket Autographic Kodak *Special*, *f.7.7* is furnished in light proof cartridges and the instrument can therefore be loaded in daylight. The operation should, however, be performed in a subdued light, not in the glare of bright sunlight. It should also be borne in mind that after the seal is broken care must be taken to keep the red paper taut on the spool, otherwise it may slip and loosen sufficiently to fog the film.



THE FILM.
No. A-127

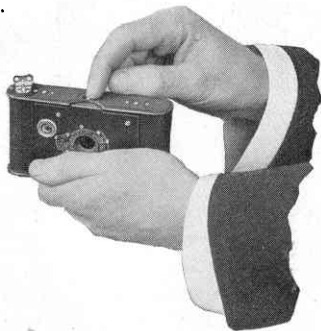


FIG. I.

The Autographic Film Cartridge is made with a thin red instead of the familiar thick red and black (duplex) paper. The thin red paper is not light proof in itself. Between it and the film is inserted a strip of tissue. This tissue serves two purposes: To supplement the red paper in light proofing the cartridge, and to permit the recording, by light, of the writing upon the film.

OPENING THE KODAK.

I. Take a position as far as possible from any window. Hold Kodak in the left hand and pull back catch in center of top of instrument. See Fig. I.



FIG. II.
REMOVING TOP.

Loosen top by gently lifting up with both thumbs, and remove by pressing up with forefingers as shown in Fig. II.

(6)

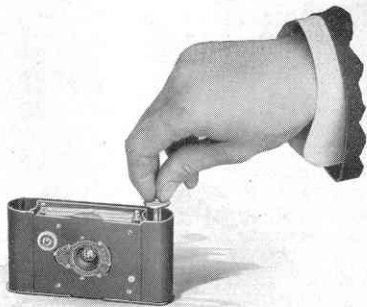


FIG. III.

II. In the film pocket at one end of the Kodak will be seen a metal spool having a slit in it. This is the reel, which must now be removed as the cartridge is to be inserted in this pocket.

III. Remove metal spool by catching it with the thumb and forefinger of the right hand, and lift same out. See Fig. III.

IV. Remove the gummed slip that holds the end of red paper, from the cartridge, and thread tapered end of red paper into the slot of the empty spool, so that the slit in the end of spool will be at the top, while at the same time the slit at end of full spool will be at the bottom of the cartridge. Then give the empty spool three or four turns, or until the black

(7)

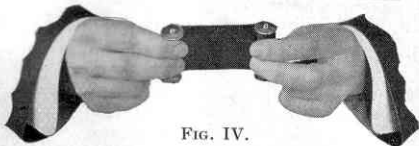


FIG. IV.

line on outside of paper is reached, at the same time being careful that the paper draws straight and true. See Fig. IV.

V. The camera may now be loaded by first unrolling about four inches of the red paper and then lowering the two spools into the film pockets at each end of the instrument,

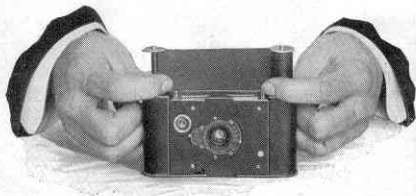


FIG. V.

allowing the red paper, between the two, to slide down into the slot at back of instrument. See Fig. V.

NOTE: It will be found that by inserting the empty spool into its respective pocket first, for about one-quarter of an inch, that the red paper will more readily slip into the slot without danger of tearing.

VI. After spools have been lowered into the pockets, push both as far down as possible in order that the tension springs at the side of the film pockets may hold them securely in place, creating sufficient drag to draw the film taut, and afford perfect register of focal plane.

The paper should now be in position as shown in Fig. VI.



FIG. VI.

SHOWING POSITION OF PAPER.

VII. Replace top of Kodak by reversing operation shown in Fig. II, Page 6.

Before fastening the catch, however, press down slightly on top and turn winding key toward front of Kodak, until the web on the key engages in slit in top of spool. The top of Kodak will not go fully into place until winding web is thus seated. (Whether web is seated or not may be readily determined by watching through the little window to see whether or not the paper moves when key is turned). Then slide catch over to secure top.

NOTE: If cover is not properly fitted, light will be admitted to the film.

Throughout the foregoing operations, from the time the gummed slip is cut on the fresh roll of film until the top is once more in place, keep the red paper wound tightly on the roll. If it is allowed to loosen, light will be admitted and the film fogged.

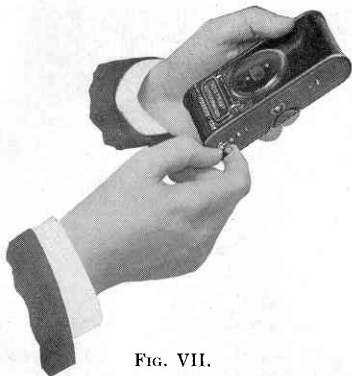


FIG. VII.

VIII. The roll of film in the camera is covered with red paper and this must be reeled off before a picture can be taken. Turn the key slowly toward front of Kodak and watch in the little red window at the back of the camera. See Fig. VII.



When 15 to 18 half-turns have been given, a hand pointing toward the No. 1 exposure will appear, then turn slowly until the figure 1 appears before the window.

The film is now in position for making the first picture.

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PART II.

MAKING THE EXPOSURES.



Before making an exposure with the Vest Pocket Autographic Kodak *Special*, *f.7.7*, either time or instantaneous, be sure of three things:

FIRST—That the shutter is adjusted properly.
(For time, instantaneous or bulb exposures, as desired.)

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SECOND—That the diaphragm stop is set at the proper opening.

THIRD—That an unexposed section of the film is turned into position.

SECTION I.

Operating the Shutter.

Perfect familiarity with the shutter is essential to successful picture taking with any camera.

As the shutter on the Vest Pocket Autographic Kodak *Special*, *f* 7.7, is equipped with the Autotime Scale, the following directions should be carefully read and the shutter operated several times before threading the film up for use.

Directions for Using the Autotime Scale in Connection with the Vest Pocket Autographic Kodak *Special*, *f* 7.7.

I. This shutter is always set. To make an exposure simply place the indicator "A" at the point desired (for kind of exposure) and press down on spring actuated lever located immediately back of the camera front.

NOTE—When making the exposure, press the shutter lever *slowly*, so as to avoid jarring the Kodak. If the Kodak is not held steadily a blurred picture will result.

Indicator A at "T" sets for time exposure.

Press the lever firmly. This opens the shutter. Time exposure by a watch. Again press the lever. This closes the shutter. Great care should be taken not to jar the camera.

Indicator at "B" makes bulb exposure, the shutter remaining open as long as the lever is held down and closing when it is released.

Indicator at 25 or 50 gives speed of approximately 1-25 and 1-50 of a second.

Kind of Light.

TOP SCALE.

II. ORDINARY INSTANTANEOUS EXPOSURES—Set indicator A according to the kind of light, "Brilliant" or "Clear."

BRILLIANT—Or intense sunshine. Use *only* when sunshine is clear and intense and is shining directly on the principal part of the picture.

CLEAR This is used for all ordinary sunshine and also for intense sunshine, when it is *not* shining directly on principal part of picture or when part of the subject is in shadow.

When the subject is in the shadow or during cloudy weather, it will be necessary to make a time exposure, in order to obtain a sufficient illumination—under such conditions the camera should be set on some steady support and the indicator set at "T" or "B" as the judgment of the operator may direct.

With "brilliant" or "clear" the camera may be held in the hands.

Kind of Picture.

BOTTOM SCALE.

III. Set indicator "B" according to kind of picture.

CLOUDS—Use this division for no other subjects.

MARINE VIEW—When view is nearly all water, with ships or yachts at a long distance. This division may also be used for distant views, such as landscapes, mountain views, etc., where the whole view is removed some distance, or in other words, a general view, *without* a principal object in the foreground.

EXCEPTION—Marine or distant views may be taken at open lens and instantaneous when conditions require it, such as from decks of moving vessels when the light is poor.

AVERAGE VIEW PORTRAIT—A general landscape *with a principal object in the foreground*, the general landscape being in the nature of a background to the principal object. For views less than one hundred feet distance and for general portraiture.

When the subject is on the shady side of a building with good reflected light set the lower pointer at Portrait and use "Clear" for time.

MOVING OBJECTS—Use for all moving objects and for all near views where the principal object does not receive the direct light of the sun or sky. *Use also* for near objects of general red, green, brown or black color.

NOTE—Expose always for the principal subject in the picture which you wish to bring out.

General.

IV. Moving objects require the use of "brilliant" and "moving objects."

Ordinary moving objects, such as people walking, street traffic, etc., can be taken with "brilliant" or "clear" and "moving objects."

In case it is desirable to cut down the aperture in order to gain the full depth of the focus of your lens it is only necessary to move the indicator "B" to "clouds" or stop F.32 and make a short time exposure setting indicator A at "T" or "B", as the judgment of the operator may direct.

In cities where the light is modified by high buildings use slightly larger aperture than indicated.

The markings are for Summer at mid-day. During Winter or for morning or afternoon use next larger aperture than indicated.

SECTION II.

If preferred the following instructions may be used.

"Snap Shots"

For all ordinary Instantaneous Exposures.

FIRST—Set the indicator A at 25 or 50. This adjusts the shutter for instantaneous exposures of 1-25 and 1-50 of a second.

SECOND—Set the indicator B at *f.7.7*. Lever B controls the Iris diaphragm, and *f.7.7* is the proper opening for ordinary instantaneous exposures.

THIRD—Press down on spring actuated lever, immediately back of camera front. This makes the exposure.

NOTE: In bright light, set the lever at 50, the highest speed. In more subdued lights set at 25, but do not attempt to make any instantaneous exposures in very dull light.

Time Exposures.

FIRST—Set the lever A at the point T (time). This adjusts the shutter for time exposures.

SECOND—Set the lever B at *f.7.7*, 11, 16, 22 or 32, according to the time of exposure and nature of subject. See instructions for use of stops, page 35.

THIRD—Press down on spring actuated lever. This opens the shutter. Time exposure by a watch. Again press the lever. This closes the shutter.

Bulb Exposures.

When it is desirable to make a very short time exposure this is best accomplished by making a "bulb exposure."

FIRST—Set the indicator A at the point "B" (bulb). This adjusts the shutter for bulb exposures.

SECOND—Set the indicator B controlling the stops, at *f.7.7*, 11, 16, 22 or 32, as desired. See page 35.

THIRD—Press lever to open the shutter, and release it to close the shutter. This makes the exposure. The shutter will remain open as long as the lever is under pressure.

IMPORTANT.

Never oil shutter. In case of accident, return Kodak to your dealer or to us for repairs.

The Lens.

The Vest Pocket Autographic Kodak *Special*, *f.7.7*, is equipped with a Kodak Anastigmat lens, the speed of which is indicated as *f.7.7*, meaning that it will cut sharp to the corners at $1/7.7$ of its focal length.

Get Acquainted With Your Lens.

The user of any lens should familiarize himself with its limitations, as well as with its capabilities. This is particularly true in the case of the Anastigmats, and we therefore ask that those who are not entirely familiar with photographic optics, read the following brief explanation, that they may get the full benefit of the power of their lens, and that, on the other hand, they do not ask of it the impossible. It should be borne in mind, however, that what we have to say here is applicable only to lenses such as are supplied on the Vest Pocket Autographic Kodak. These directions make no pretention to covering the entire field of photographic optics.

In comparing the work of one lens with another you must, first of all, remember that such comparisons must be made with a stop opening of the same relative size. In comparing the Anastigmat with the Meniscus Achromatic, with which the regular Vest Pocket Autographic Kodak is equipped, do not expect as great depth of focus with your Anastigmat set at an opening of *f.7.7* as the Meniscus lens gives at its largest opening, *f.11.3*. The Anastigmat at *f.11* will give greater depth of focus than the Meniscus of the same focal length with approximately the same opening, while, on the other hand, the Meniscus will not work at all at *f.7.7*.

NOTE: It should be borne in mind that the shorter the length of focus, the greater the depth of focus. This explains why very small cameras, such as the Vest Pocket Autographic Kodak, can have a "fixed focus" (immovable), while larger cameras are all made so they can be focused.

What Depth of Focus Means.

Suppose now that you are using your Anastigmat at the full opening $f.7.7$. An object 10 feet distant will be absolutely sharp, objects 6 and 25 feet distant, while not as sharp, will be sharp enough for all practical purposes. Stop your Anastigmat down to $f.11$. and those objects each side of the exact point of focus will materially increase in sharpness. Go further and use stop $f.22$, or a still smaller stop, and everything from 5 feet on to infinity will be sharp. It will thus be seen that the smaller the stop the greater the depth of focus, i. e., the greater the power of the lens to sharply define. But it is obvious that with the small stops the exposure must be correspondingly lengthened.

ANASTIGMAT SPEED.

Using a stop of $f.11$. or smaller, the advantages of the Anastigmat over the Meniscus Achromatic lens is an improvement in definition and in the corrections of lines. But let us suppose that we desire to take a picture on a cloudy day. What do we find? The f , value of the lens denotes the relation of the opening in that lens to its focal length. Suppose then, that we are using the Meniscus Achromatic lens, (3 inch focus), speed $f.11.3$, and an Anastigmat lens, speed, $f.7.7$ of the same length of focus, 3 inches. How do they compare in speed? To reduce this to its simplest terms, we will divide the focal

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length (three inches) in each case by the value.

$$3 \div 11.3 = 265$$

$$3 \div 7.7 = 389$$

It will thus be seen that in using the Meniscus lens the largest opening is 265-1000 of an inch in diameter and, with the Anastigmat 389-1000 of an inch. The amount of light admitted by a lens in a given time depends, of course, upon the area of the opening at that time being used in that lens. The amount of light admitted in a given time with these different lenses would, therefore, be in direct proportion to the square of their diameters. Here, then, omitting the fractions, is the result:

$$\text{Meniscus Achromatic lens } 265 \times 265 = 702$$

$$\text{Anastigmat lens, } 389 \times 389 = 1513$$

We thus find that the speed of the Anastigmat is double the speed of the Meniscus lens, it therefore admits twice as much light as the Meniscus in a given amount of time. Therein lies the greatest Anastigmat advantage. But simply because it has this speed, you don't always need to use it. The speed must be used with discretion, just as greater care is required in operating an automobile than in operating a bicycle.

Under conditions that would give you good results with a Meniscus lens at $f.11.3$, use stop $f.11$, with your Anastigmat, don't use the largest opening for every occasion use it only for emergency. Your greatest Anastig-

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mat advantage lies in the fact that when the light is so poor that you cannot get a properly timed negative with your Meniscus lens at its greatest opening, *f.11.3*, without resorting to a time exposure, you can open up your Anastigmat to its full opening and get a successful snap shot.

A LAW OF OPTICS.

The larger the stop opening, the less depth of focus. This is not a rule covering any particular lens that we or anyone else exploits. It's as fixed as the course of the planets. With a large opening, depth of focus must be sacrificed. In this matter of opening, then, the difference between the Meniscus and the Anastigmat is this: The Anastigmat will cut sharp on objects over the entire picture, with a large opening, admitting a large amount of light, thus requiring a relatively short exposure; but when this large opening is used, there is no great depth of focus. (With the very short focus lenses, however, such as are used on the Vest Pocket Autographic Kodak, this quality is negligible). The Meniscus lens will not cut the entire picture sharp with its largest opening. With the smaller openings, as *f.11.*, etc., the Anastigmat has greater depth of focus and gives sharper definition over the entire picture.

DEDUCTIONS.

It is perfectly evident then that it is best to use only a moderately large stop opening, (say *f.11*) even with the Anastigmat, and

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time accordingly when conditions will permit. However, when the light is dull and a snap shot is desired, the full opening may be used.

SECTION III.

Instantaneous Exposures.

("SNAP SHOTS.")

In taking instantaneous exposures the object should be in the broad, open sunlight, but the camera should not. The sun should be behind the back or over the shoulder of the operator. If it shines directly into the lens it will blur and fog the picture.

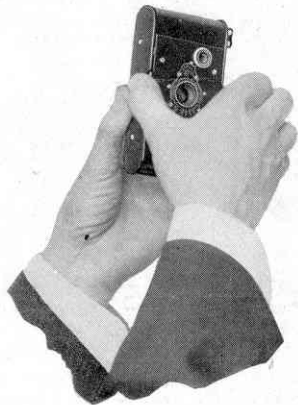


FIG. I.

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Opening and Focusing the Camera.

I. Grasp the instrument in the left hand, and with the thumb and forefinger of the right hand, take hold of the lips at right and left of front. See Fig. 1.

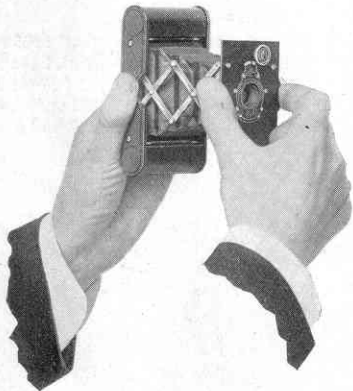


FIG. II.

II. Extend bellows by pulling out front to limit of motion with a firm, quick movement, being sure that it draws out straight and true. The camera is then in focus. See Fig. II.

To make a vertical picture, aim the camera at the object to be photographed and locate the image in the finder. See Fig. III.

(22)

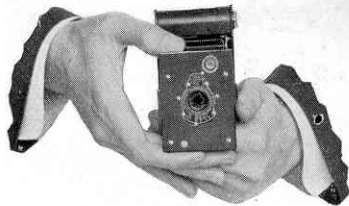


FIG. III.

Always look into the finder from directly over it, *not at an angle*. The finder shows the scope of view and is a facsimile of what the picture will be. Hold the camera steady, as the least jarring will cause a blurred negative—hold it level as shown in Fig. III, and *press the lever*. This makes the exposure.

To make a horizontal picture, reverse the finder and hold Kodak as shown in Fig. IV.

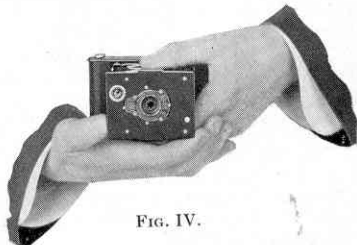
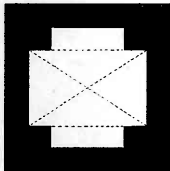


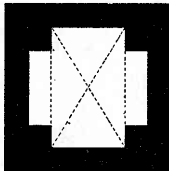
FIG. IV.

Any object that does not show in the finder will not show in the picture.

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VIEW INCLUDED WHEN MAKING
A HORIZONTAL PICTURE.



VIEW INCLUDED WHEN MAKING
A VERTICAL PICTURE.

FIG. V.

It will be noticed that the top of the finder is notched as shown in Fig. V. This is done so that the one finder will correctly show the view included when the Kodak is held in either horizontal or vertical position. As the picture taken with the Vest Pocket Auto-graphic Kodak *Special* is oblong it will readily be seen that unless the finder was made in this manner, it would not correctly show the exact view intended when held in either position.

Remember that only the view indicated within the dotted lines will show in the picture.

The Kodak Must Be Held Level.

If the operator attempts to photograph a tall building while standing near it, by pointing the camera upward (thinking thereby to center it) the result will be similar to Fig. VI.

This was pointed too high. This building should have been taken from the middle story window of the building opposite.

The operator should hold the camera *level*, after withdrawing to a proper distance, as indicated by the image shown in the finder.

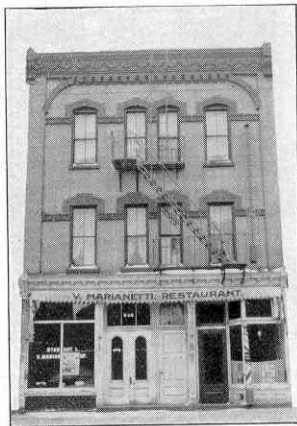


FIG. VI.

If the object be down low like a small child or a dog, the Kodak should be held down level with the center of the object.

NOTE: When Kodak is not in use be especially careful not to expose face of instrument to direct rays of the sun.

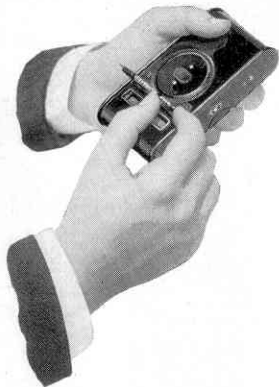


FIG. VII.

THE AUTOGRAPHIC FEATURE.

The Autographic Kodak has a small door on the back, covering a narrow slot through which the writing is done upon the red paper. The slot is provided with an automatic safety spring border which operates when the door is open to press the papers into contact with back of the film, thus securing the sharp printing of the image of the writing and preventing the diffusion of light around the edges of the slot. This slot is located so that normally the writing comes between the exposures.

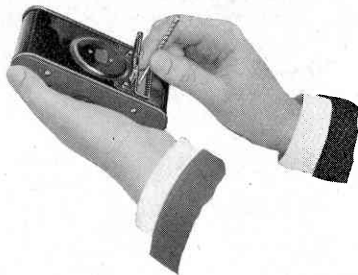


FIG. VIII.

Position of pencil (or stylus) when writing record data on Autographic Film Cartridge used in Autographic Kodak.

THE OPERATION.

After the picture is taken open the door, by lifting it upwards with the thumb. (Fig. VII.) Use the stylus, or a smooth pointed pencil, held in as upright a position as is convenient, and write on the strip of exposed red paper any memorandum desired, such as the title of the picture, the date, or details in regard to the exposure, light, stops, etc. (Fig. VIII.)

The following "Autographic Record Strip" is printed merely to suggest a few of the thousand and one ways in which autographic records may be used to add value to your negatives.

Mary Elizabeth's first doll

Mary E. learns to walk 7/6/15

Westminster Abbey

Stop #11, 1/50 sec. 10 a.m. 5/12/14

Haunting Bridge, Royal George

From moving train 1/50 sec.

Lock #47 5/6/14

Pipes completed 3/8/14

Culvert Job 5/7/14

Cement work completed

Masonic Temple 5/7/14

Roofing completed

Flashlight, 6 Mile Lake 8/8/14

4 1/2 lb. Black bass. Caught

8/4/14 J.P.M. - 6 Mile Lake

AN AUTOGRAPHIC NEGATIVE.

To get a clear impression, press firmly on both up and down strokes. While writing, or afterwards, the sun should not be allowed to shine upon the paper. The action of the pencil or stylus so affects the tissue as to permit the light to record the writing upon the film. After finishing the writing, the door should be left open for the printing, in accordance with the following table.

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(Expose to the sky but not to the sun).

	OUT OF DOORS	INDOORS CLOSE TO WINDOW
BRILLIANT LIGHT	2 to 5 Seconds	5 to 7 Seconds
DULL LIGHT	5 to 10 Seconds	10 to 15 Seconds

INCANDESCENT LIGHT—distance 2 inches, 30 to 60 seconds.

WEISBACH LIGHT—distance 6 inches, 30 to 60 seconds.

Close the door before winding a new film into place.

Caution. In order to locate the writing accurately in the space between the negatives it is important that the film should be turned so that the exposure number centers perfectly in the red window of the Kodak.

If a pencil be used, the point must be dry and it must not be of the "indelible" variety.

Turn a new film into position: Turn the key in top of camera slowly to the left until the next number appears before the red window (Page 10, Fig. VII). Three or four turns will be sufficient to accomplish this.

Repeat the foregoing operations for each picture.

NOTE—The warning index hand appears only before No. 1.

Important.—When you have used the last exposure (No. 8) on your roll of film and have made the autographic record of it in accordance with the foregoing directions, turn the winding key of the Kodak until a letter (A) appears in the center of the window in the back of Kodak. Raise the door and write your

(29)

name on the red paper, expose it to the sky the same as was done when making the exposure records, then close the door and finish winding film and red paper for removal from the Kodak. Your film is now ready to send to your finisher, and when developed will be readily identified by the autographic copy of your name which you wrote on the red paper. Close the door before winding a new film into place.

SECTION IV.

Time Exposures—Interiors.

1. When it is desired to make a vertical exposure, pull down the lever underneath lower part of front, which will act as a support, and place camera in position on some firm base, such as a chair or table, as shown in Fig. I.

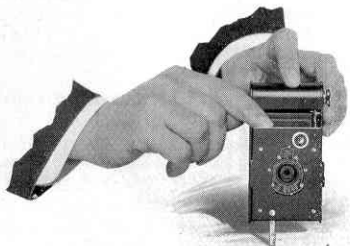


FIG. I.
MAKING A TIME EXPOSURE.

(30)

Set camera in such a position that the finder will embrace the view desired. The diagram shows the proper positions for the camera. It should not be pointed directly at a window,

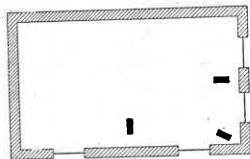


DIAGRAM SHOWING POSITIONS OF CAMERA.

as the glare of light will blur the picture. If all the windows cannot be avoided, pull down the shades of such as come within the range of the camera.

When it is desired to make a horizontal time exposure, place camera as shown in Fig. II.

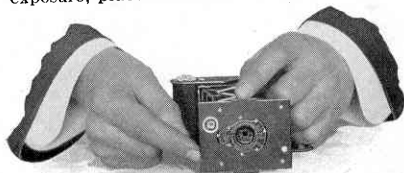


FIG. II.

All being in readiness, set the shutter as described on page 16, push the lever, once to open and again to close the shutter. Time the exposure by a watch.

(31)

Another Method.

Another way of making short-time exposures which has much to recommend it is as follows:

Hold the palm of the hand before the front of the Kodak, so as to cover the lens and exclude all light (see Fig. III). Press the release to open the shutter; remove the hand and give the proper exposure; replace the hand in front of lens and again press the release to close shutter.

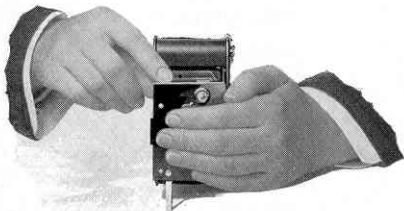


FIG. III.

Some experienced amateurs prefer this method with any camera not having a pneumatic release, as it practically does away with all danger of jarring the instrument during exposure, and thus blurring the picture.

TURN THE KEY.

After making the Autographic record, turn a new film into position, as described before. See page 29.

THE KODAK IS NOW READY FOR THE NEXT INTERIOR EXPOSURE.

Follow the directions given heretofore for each successive exposure.

When the last Interior Exposure is made, adjust the shutter for instantaneous exposures as before directed.

Time Needed for Interior Exposures.

The following table gives the time of the exposure required under varying conditions of light with stop $f.16$ in the lens. If stop $f.11$ is used give only one-half the time, with $f.7.7$ give one-fourth the time, if stop $f.22$ is used give twice the time of the table, at $f.32$ give four times the time of the table. The smaller the stop the sharper the picture. Stop No. 16 gives the best average results for interiors.

White walls and more than one window :

bright sun outside, 4 seconds ;
hazy sun, 10 seconds ;
cloudy bright, 20 seconds ;
cloudy dull, 40 seconds.

White walls and only one window :

bright sun outside, 6 seconds ;
hazy sun, 15 seconds ;
cloudy bright, 30 seconds ;
cloudy dull, 60 seconds.

Medium colored walls and hangings and more than one window :

bright sun outside, 8 seconds ;
hazy sun, 20 seconds ;
cloudy bright, 40 seconds ;
cloudy dull, 80 seconds.

Medium colored walls and hangings and only one window :

bright sun outside, 12 seconds ;
hazy sun, 30 seconds ;
cloudy bright, 60 seconds ;
cloudy dull, 120 seconds.

Dark colored walls and hangings and more than one window:

bright sun outside, 20 seconds;
hazy sun, 40 seconds;
cloudy bright, 80 seconds;
cloudy dull, 2 minutes, 40 seconds.

Dark colored walls and hangings and only one window:

bright sun outside, 40 seconds;
hazy sun, 80 seconds;
cloudy bright, 2 minutes, 40 seconds;
cloudy dull, 5 minutes, 20 seconds.

The foregoing is calculated for rooms whose windows get the direct light from the sky and for hours from three hours after sunrise until three hours before sunset.

If earlier or later the time required will be longer.

Kodak Portrait Attachment.

By means of a Kodak Portrait Attachment used with the Vest Pocket Autographic Kodak *Special f.7.7*, head and shoulder pictures of increased size may be obtained.

With the Kodak Portrait Attachment in position the subject should be placed $3\frac{1}{2}$ feet from the lens.

The attachment is simply an extra lens slipped over lens opening, and in no way affects the operation of the camera except to change the focus. Price, 50 cents. Be sure and specify what camera the attachment is to be used with when ordering.

Time Exposures in Open Air.

When the stop *f.32* is in the lens the light admitted is so much reduced that time expo-

sure out of doors may be made the same as interiors, but the exposure must be much shorter.

WITH SUNSHINE—The shutter can hardly be opened and closed quickly enough to avoid over exposure.

WITH LIGHT CLOUDS—From 1.5 to $\frac{1}{2}$ second will be sufficient.

WITH HEAVY CLOUDS—From 1 to 3 seconds will be required.

The above is calculated for hours from three hours after sunrise until three hours before sunset and for objects in the open air. For other hours, or for objects in the shadow, under porches or under trees, no accurate directions can be given; experience only can teach the proper exposure to give.

Time exposures cannot be made while the camera is held in the hand. Always place it upon some firm support such as a chair or table.

DIAPHRAGMS.

The stops should be used as follows:

F.7.7—For exposures of moving objects, with shutter speed of 1-50 second; occasionally for slower speed of 1-25 on cloudy days; for indoor portraits, and for all ordinary exposures of 1-50 of a second.

F.11—For exposures of 1-25 second when the sun shines.

F.16—For exposures of 1-25 second when the sunlight is unusually strong and there are no heavy shadows, such as in views on the seashore or on water, also for interior time exposures, the time for which is given in the table on page 30.

F.22 and 32—For interiors. For time exposures out of doors in deep shadow or on very cloudy days. *Never for instantaneous exposures.* The smaller the stop the sharper the picture.

Absolute failure will be the result if you use the smallest stop for instantaneous exposures.

FLASH LIGHT PICTURES.

By the introduction of Eastman Flash Sheets, picture taking at night has been wonderfully simplified. A package of flash sheets, a piece of cardboard, a pin and a match complete the list of essential extras, although a Kodak Flash Sheet Holder is a great convenience.

With flash sheets no lamp is necessary, there is a minimum of smoke and they are far safer than any other self-burning flash mediums, besides giving a softer light that is less trying to the eyes.

Many interiors can be taken with the flash sheets that are impracticable by daylight, either by reason of a lack of illumination or because there are windows in the direct line of view which cannot be darkened sufficiently to prevent the blurring of the picture.

Evening parties, groups around a dinner or card table, or single portraits may be readily made by the use of our flash sheets, thus enabling the amateur to obtain souvenirs of many occasions, which, but for the flash light would be quite beyond the range of the art.

Preparation for the Flash.

The camera should be prepared for time exposure, as directed on page 16 of this Manual (except that stop *f.11* must be used), and placed on some level support where it will take in the view desired.

Pin a flash sheet by one corner to a piece of cardboard which has previously been fixed in a perpendicular position. If the cardboard is

white it will act as a reflector and increase the strength of the flash.

The flash sheet should *always* be placed two feet behind and two or three feet to one side of the camera. If placed in front, or on a line with front of Kodak, the flash would strike the lens and blur the picture. It should be placed at one side as well as behind, so as to throw a shadow and give a little relief in the lighting. The flash should be at the same height or a little higher than the camera. The support upon which the flash is to be made should not project far enough in front of it to cast a shadow in front of the Kodak. An extra piece of cardboard a foot square placed under the flash sheet will prevent any sparks from the flash doing damage. However, by using the

Kodak Flash Sheet Holder, all these contingencies are taken care of, and we strongly advise its use.

The Kodak Flash Sheet Holder.



This holder may be held in the hand, *always between you and the flash sheet*. Or it may be used on any Kodak tripod, being provided with a socket for that purpose. The sheet is placed in position in the center of the larger pan on the round opening which has a raised saw-tooth edge extending half way around it. Press with the thumb on the sheet, so a slight break is made and a portion of the sheet projects partially

through the opening. Then to insure the sheets being more securely fastened press around the notched edge, forcing this portion of flash sheet firmly into position on the pan. Then to set off the flash, merely insert a lighted match, from behind, through the round opening.

Taking the Picture.

Having the Kodak and the flash sheet both in position and all being in readiness, open the camera shutter, stand at arm's length and touch a match, from behind, through the round opening in the center.

NOTE: If you are not using the Kodak Flash Sheet Holder, place the match in a split stick at least two feet long.

There will be a bright flash which will impress the picture on the sensitive film. Then close the shutter, make the autographic record, and turn a fresh film into place with the key, ready for another picture.

The Flash Sheet.

The size of the sheet required to light a room varies with the distance of the object farthest from the camera, and the color of the walls and hangings.

Table.

- For 10 feet distance and light walls and hangings, use 1 No. 1 sheet.
- For 10 feet distance and dark walls and hangings, use 1 No. 2 sheet.
- For 15 feet distance and light walls and hangings, use 1 No. 2 sheet.
- For 15 feet distance and dark walls and hangings, use 1 No. 3 sheet.

NOTE: Never use more than one sheet at a time in the Kodak Flash Sheet Holder.

TO MAKE A PORTRAIT—Place the sitter in a chair partly facing the Kodak (which should be located slightly higher than an ordinary table) and turn the face slightly towards the instrument, having the eyes centered on an object at the same level with the lens. The proper distance from the camera to the subject can be ascertained by looking at the image in the finder. For a three-quarter picture this will be from 6 to 8 feet, and for a full figure from 8 to 10 feet.

The flash should be on the side of the Kodak away from the face, that is, the sitter should not face it. The flash should not be higher than the head of the sitter.

For using the Portrait Attachment, see page 34.

TO MAKE A GROUP—Arrange the chairs in the form of an arc, facing the Kodak, so that each chair will be exactly the same distance from the camera. Half the persons composing the group should be seated and the rest should stand behind the chairs. If the group is large any number of chairs may be used, but none of the subjects should be seated on the floor, as sometimes seen in large pictures, because the perspective would be too violent.

BACKGROUNDS—In making single portraits or groups, care should be taken to have a suitable background against which the figure will show in relief; a light background is better than a dark one, and often a single figure or two will show up well against a lace curtain. For larger groups a medium light wall will be suitable.