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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.

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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.

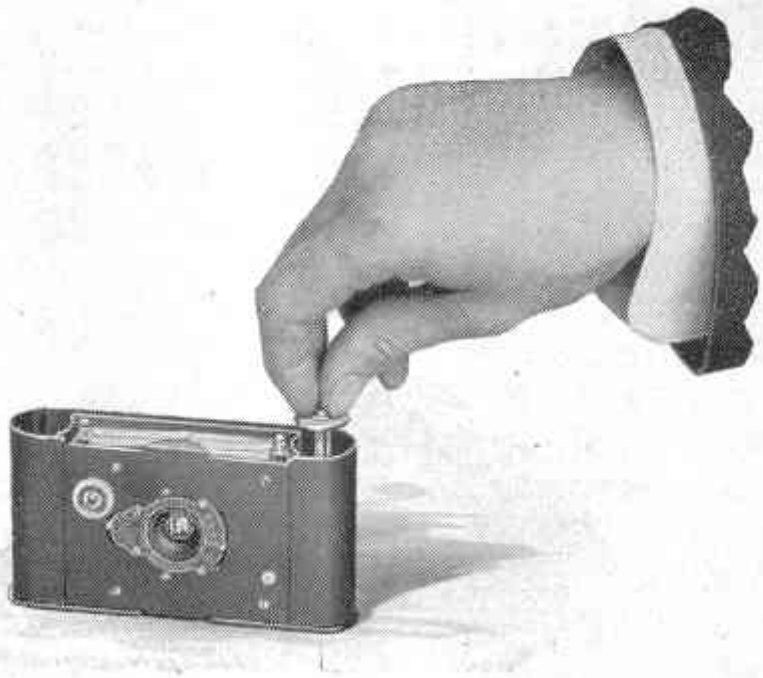


FIG. III.

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

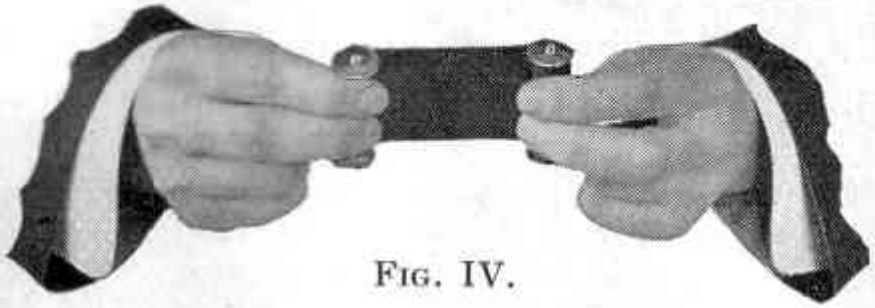


FIG. IV.

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,

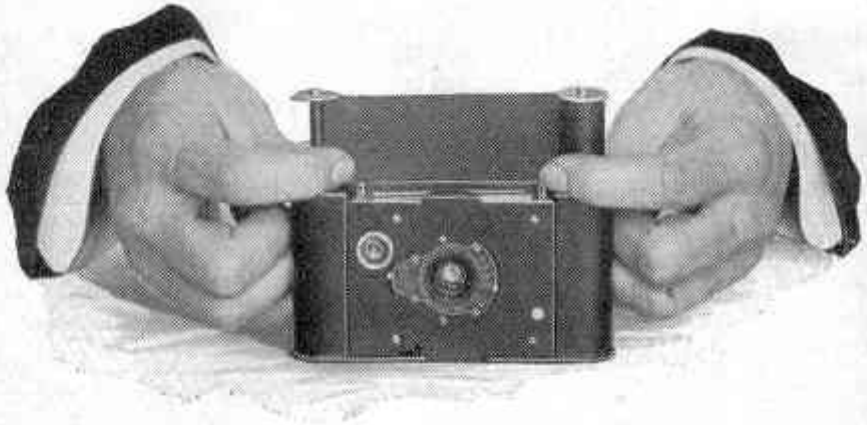


FIG. V.

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.

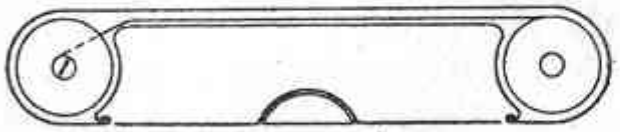


FIG. VI.
SHOWING POSITION OF PAPER.

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

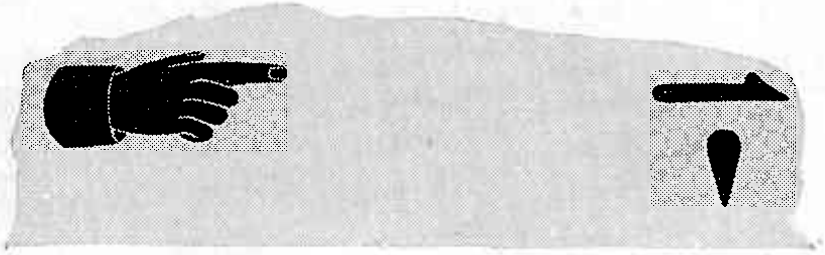
Before fastening the catch, however, press down slightly on top and turn winding key toward front of Kodak, until the web on the key engages in slit in top of spool. The top of Kodak will not go fully into place until winding web is thus seated. (Whether web is seated or not may be readily determined 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.



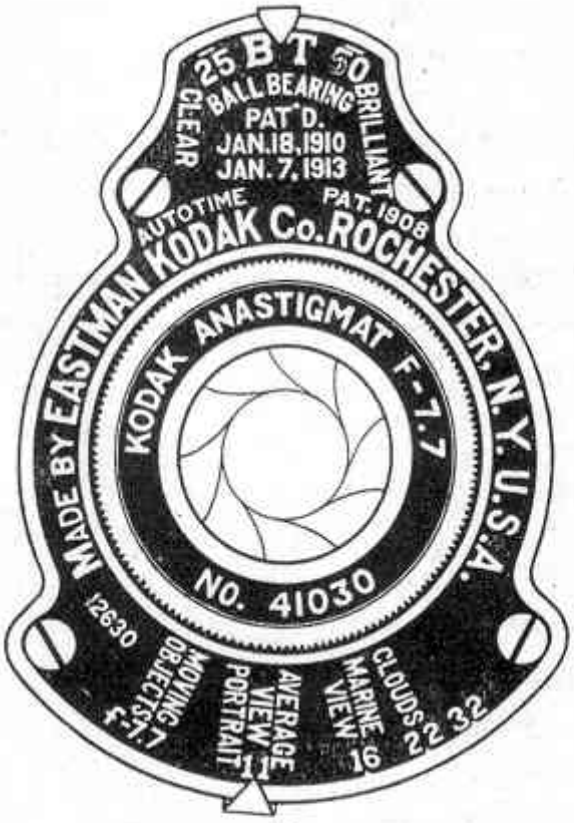
When 15 to 18 half-turns have been given, a hand pointing toward the No. 1 exposure will appear, then turn slowly until the figure 1 appears before the window.

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

PART II.

MAKING THE EXPOSURES.

A



B

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.)

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

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:

Meniscus Achromatic lens 265 x 265 = 702
Anastigmat lens, 389 x 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-

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

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.

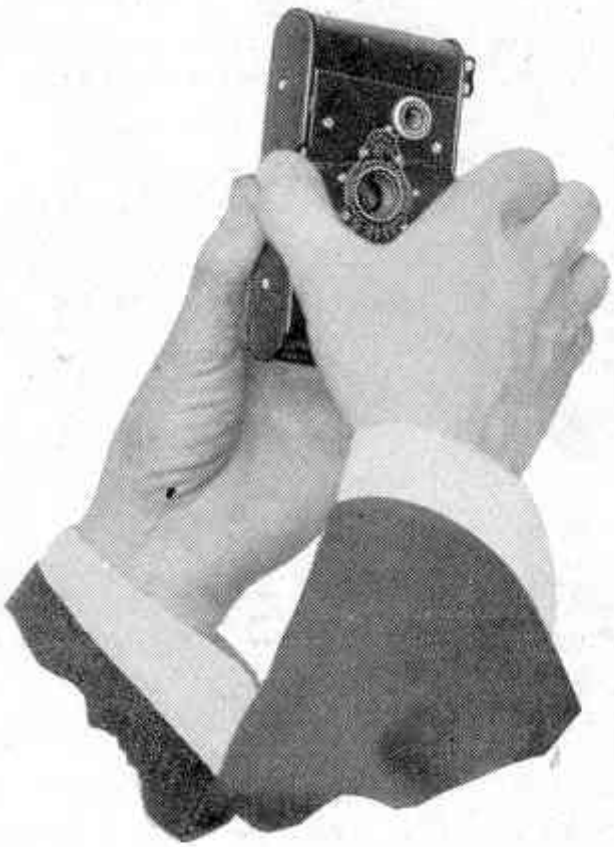


FIG. I.

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.

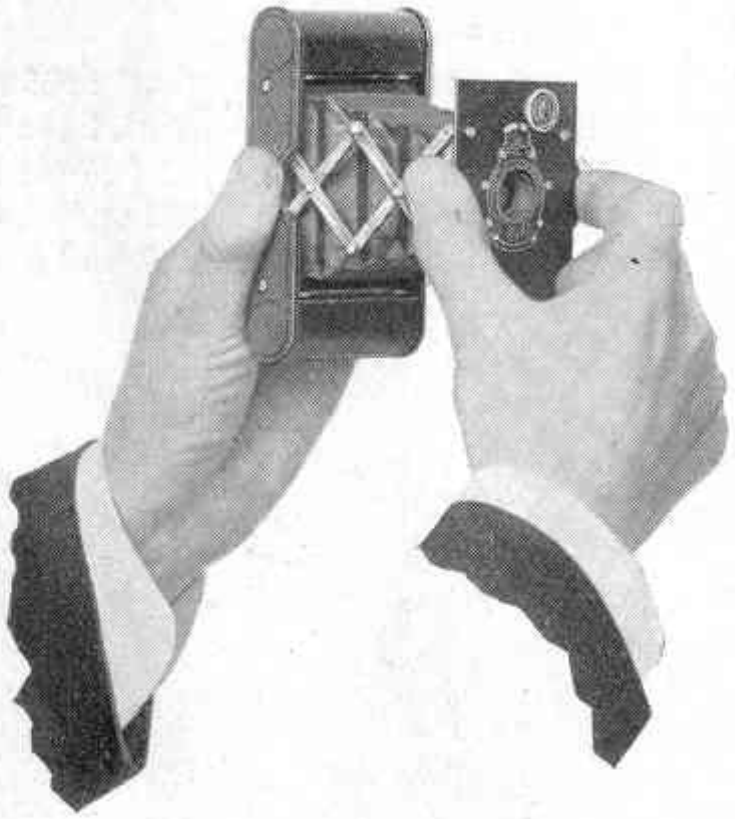


FIG. II.

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.

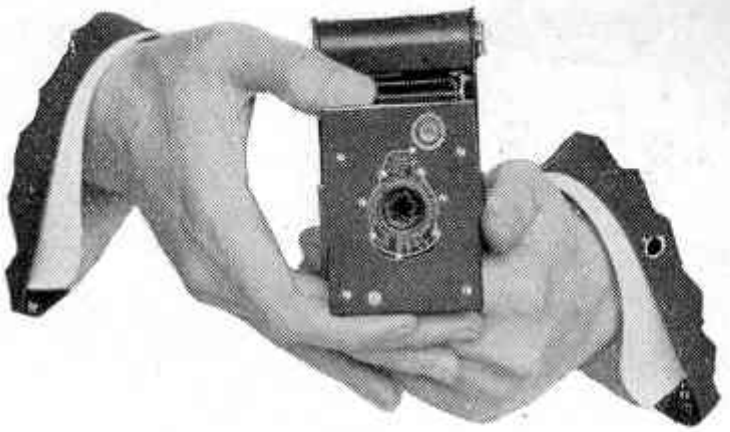


FIG. III.

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.

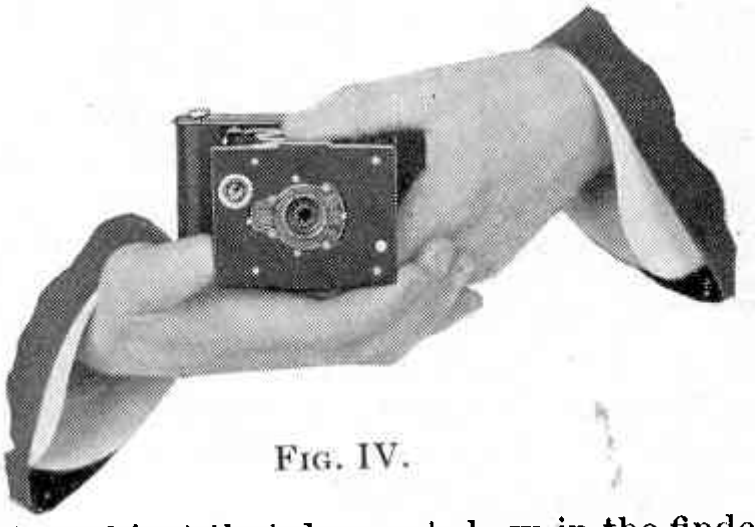
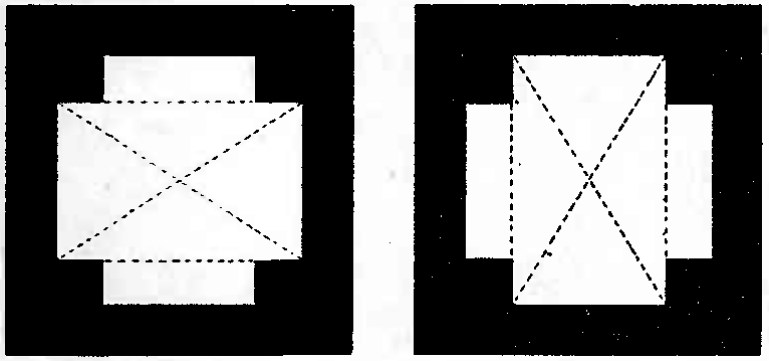


FIG. IV.

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



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 Autographic 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 similiar 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.

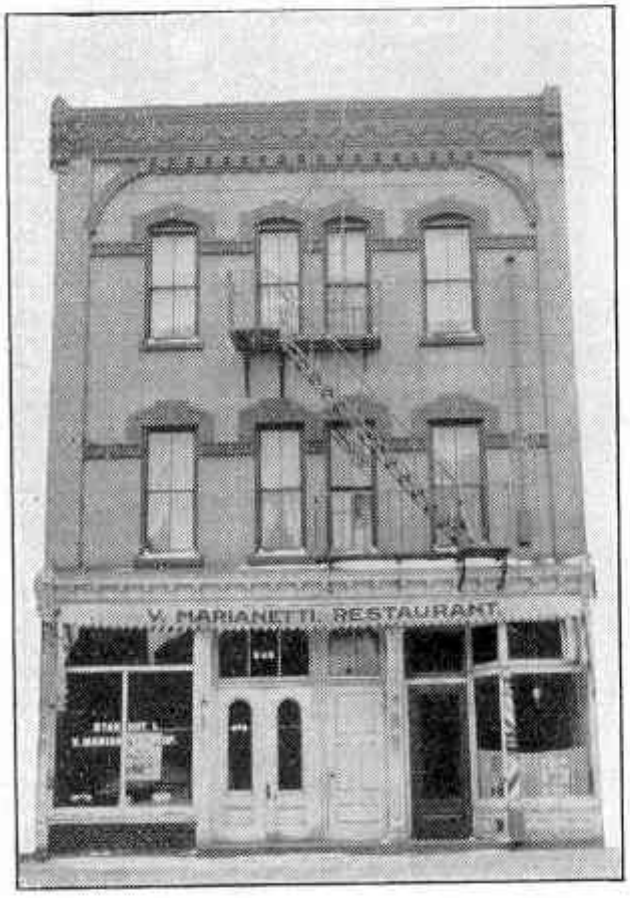


FIG. VI.

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.

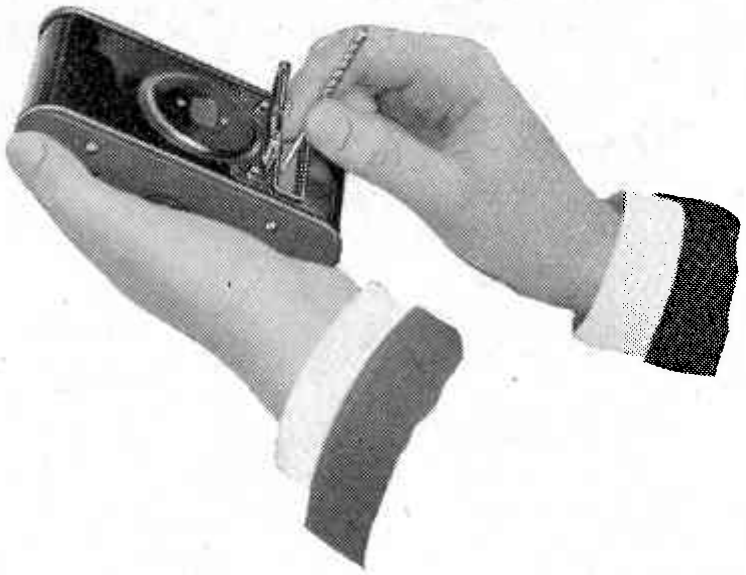


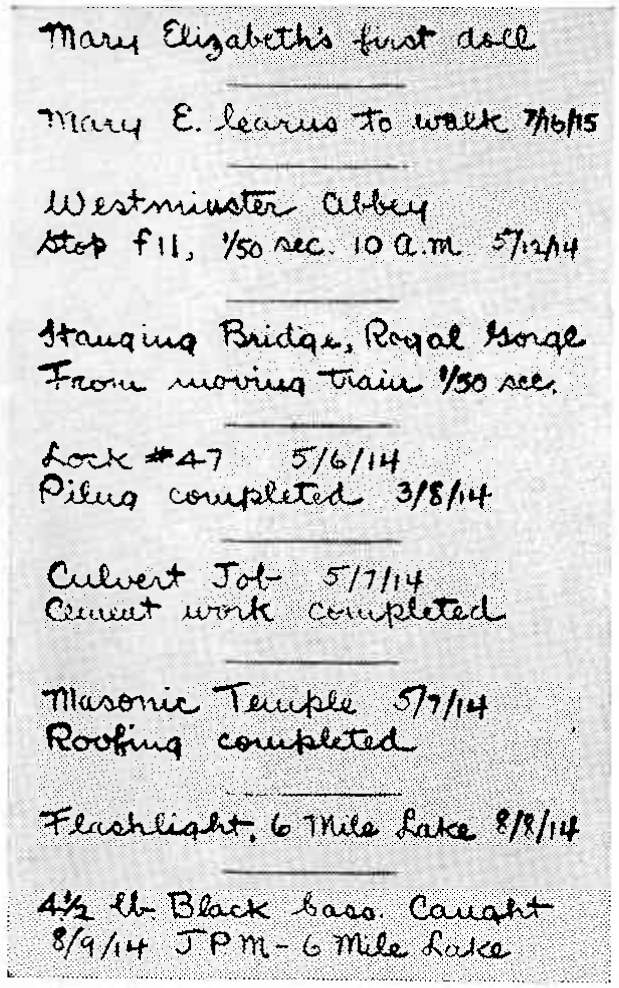
FIG. VIII.

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.



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.

(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

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.

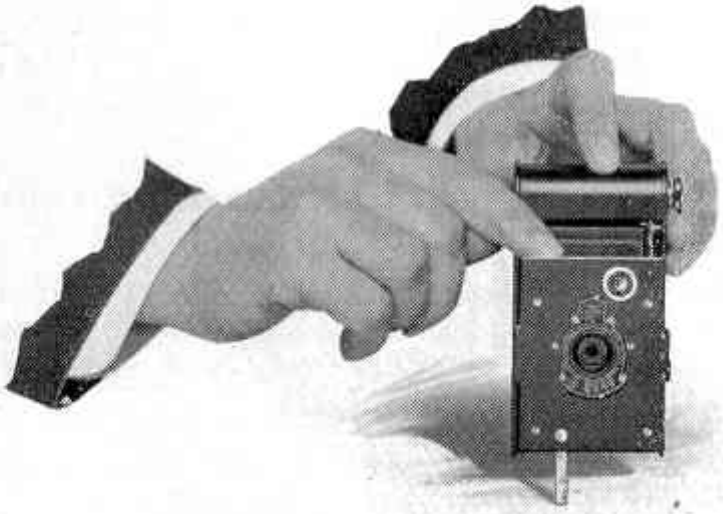


FIG. I.

MAKING A TIME EXPOSURE.

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,

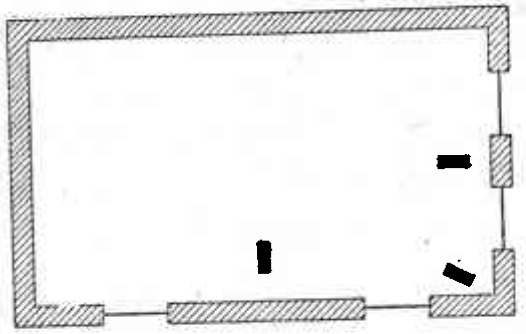


DIAGRAM SHOWING POSITIONS OF CAMERA.

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.

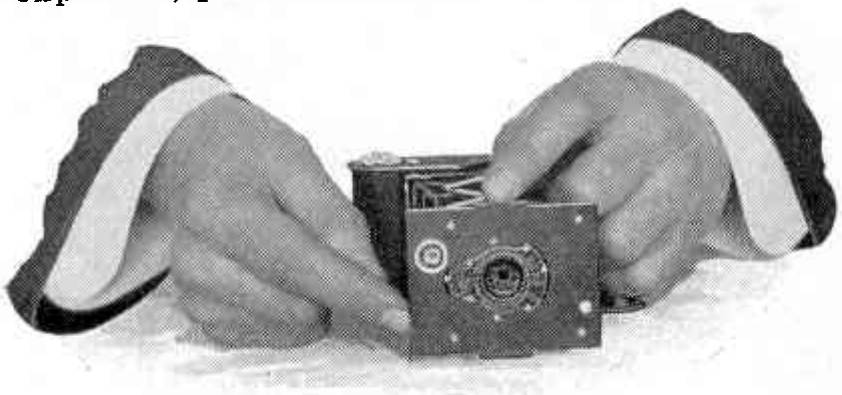


FIG. II.

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.

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.

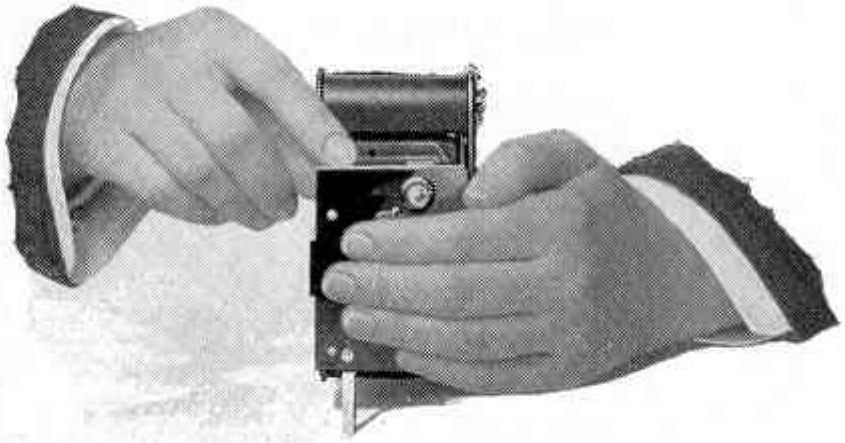


FIG. III.

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 3½ 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 exposures 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 ½ 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.

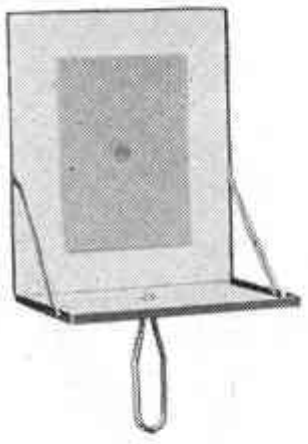
Preparation for the Flash.

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.

The *finder* on the camera will aid the operator in composing the groups so as to get the best effect. In order to make the image visible in the finder the room will have to be well lighted with ordinary lamplight, which may be left on while the picture is being made, provided none of the lights are placed so that they show in the finder.

Eastman Flash Sheets burn more slowly than flash powders, producing a much softer light and are, therefore, far preferable in portrait work; the subject, however, should be warned not to move, as the picture is not taken *instantaneously*, about one second being required to burn one sheet.

Eastman Flash Cartridges.

Eastman Flash Cartridges may be substituted for the sheets if desired. We recommend the sheets, however, as more convenient, cheaper and capable of producing the best results. The cartridges are only superior where absolutely *instantaneous* work is essential.

Closing the Kodak.

When through using Kodak, it should be closed by simply pushing in front, reversing the operation as shown in Fig. II, page 22.

NOTE: Before closing front, be sure that the finder is in an upright position, otherwise it will interfere in its proper closing.

PART III.

Removing the Film.

No dark-room is required for changing the spools in the Vest Pocket Autographic Kodak *Special*, *f*.7.7. The operation should, however, be performed in a subdued light.

I. When the last section of film (No. 8) has been exposed and the record of your name has been made as mentioned on page 29, turn the key about 14 half turns. This winds the red paper around the exposed film and protects it from the light when the top of the Kodak has been removed.

II. Provide an extra spool of film to fit this camera and take a position by a table as far as possible from any window.

III. Open Kodak as shown in Fig. I, page 5, and remove spool of exposed film by first turning the instrument over and tapping it gently on the palm of the left hand. This will eject the spool slightly, as shown in Fig. I.

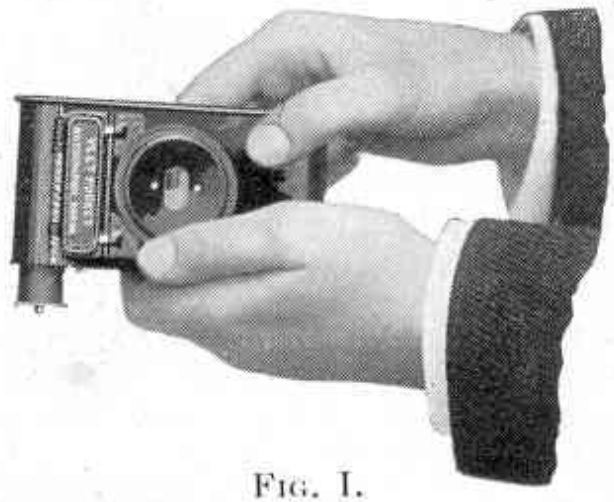


FIG. I.

It may then be removed by drawing it out, as in Fig. II, being careful that the red paper does not unroll.

IV. Fold over end of red paper one and one quarter inches, (so as to make subsequent breaking of the seal easy) and then seal with sticker.

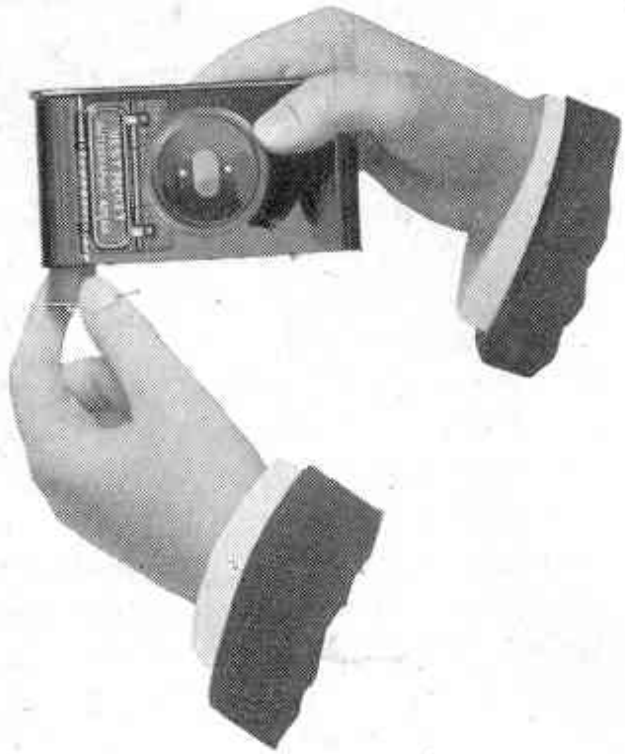


FIG. II.

V. Wrap up exposed film immediately to prevent the possibility of light being admitted.

VI. Now take out empty spool as shown on page 7, Fig. III, and reload camera as previously described on page 5.

VII. The roll of exposures can now be mailed to us for finishing (see price list), or you can do the developing and printing yourself.

NOTE—In mailing us film for development do not fail to mark the package plainly with your name and address, and write us a letter of advice, with remittance.

Important.

Autographic Film should be developed as promptly as possible after exposure.

The quality of the image on all sensitized products is retained by immediate development after exposure.

"Cinch Marks."

If the film and paper loosen up a trifle when taken from the camera, many amateurs are likely to take the cartridge in the hand and wind it as closely as possible, cinching it tightly with a twisting motion. There's nothing more likely to injure the negative than this tight drawing of the film as it abrades the surface, making fine parallel scratches running lengthwise of the film, which, in some cases, will ruin the negative. *Do not "cinch" the cartridge.* It simply needs to be wound tightly enough so that the red paper keeps inside the flanges of the spool.

PART IV.

Developing.

There is no necessity of working in a dark-room or waiting until night to develop film. It can be done in daylight at any time and place. And the daylight method of developing film gives better results than the dark-room way.

Film may be developed in daylight by the Kodak Film Tank method. Detailed directions for developing will be found in the manual which accompanies the goods. The operation is given briefly in the following pages.

We recommend the Kodak Film Tank method particularly for its simplicity and the uniformly good negatives which it gives.

The preparation of an Autographic Film Cartridge for development and the method of developing it in the Kodak Film Tank is precisely the same as for the regular N. C. Film cartridge.

Developing with the Kodak Film Tank.

For use with the Vest Pocket Autographic Kodak *Special* provide a V. P. Kodak Film Developing Tank.

The V. P. K. Film Tank consists of a wooden box, a light-proof apron, a "transferring reel", a metal "solution cup", in which the film is developed, and a hooked rod for removing film from solution. There is also a dummy film cartridge with which one should experiment before using an exposed cartridge. The various

parts of the outfit come packed in the box itself.

I. Take everything out of the box. Take Apron and Transferring Reel out of solution cup.

II. Insert the axles marked C and D in the cut, in the holes in box. Axle D is inserted from the front of box, as shown in Fig. I, while axle C is inserted from the opposite side. The front will be towards you when the spool carrier in end of box is at your right.

III. The axle "C" must be pushed through the hollow spindle which will be found loose in the box. The two lugs on this spindle are to engage the hooks at the end of apron. The axle "D" must be pushed through the hollow rod of the Transferring Reel to hold reel in position as indicated in the illustration. The flanges of each end of the Transferring Reel are marked "Y" in the illustration.

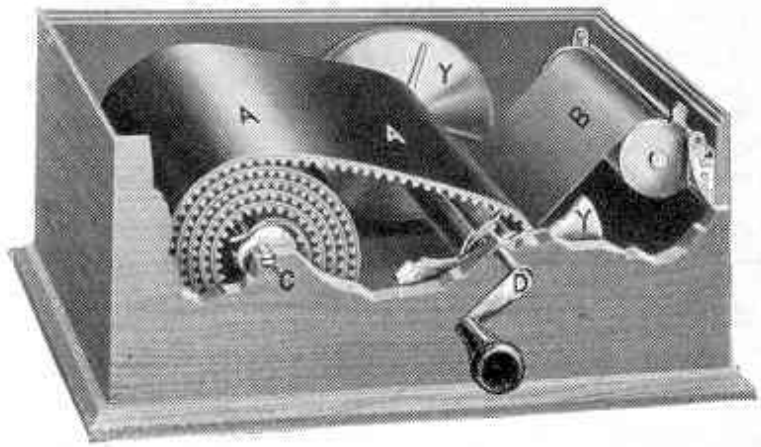


FIG. I.

IV. Attach one end of the apron to spindle through which axle "C" passes, by means of the metal hooks which are to be engaged with the lugs on the spindle. The corrugated side of the rubber bands is to be beneath the apron when it is attached. Turn toward end of box on axle "C" and wind entire apron on to spindle, maintaining a slight tension on apron in so doing by resting one hand on it.

IMPORTANT.

Preparing the Cartridge.

Film to be used in the Kodak Film Tank must be fastened to the red paper at both ends. All films are fastened at one end in our factory. The operation can be accomplished in the following manner:

Just before you are ready to develop (holding spool with the unprinted side of the red paper up) unroll the red paper carefully until you uncover the piece of gummed paper which is fastened to end of film and is to be used as a means of fastening film to red paper. Moisten the gummed side of sticker evenly for about an inch across the end and stick it down to red paper, rubbing thoroughly to secure perfect adhesion. Wind end of red paper on spool again and the cartridge is ready to insert in machine.

V. Insert film cartridge in spool carrier and close up the movable arm against end of spool. The extensions at end of spool extending through openings in spool carrier. Have the red paper ("B" in Fig. I) lead from the top.

NOTE—It will be found that if the carrier is lifted upward, the spool may be more readily inserted.

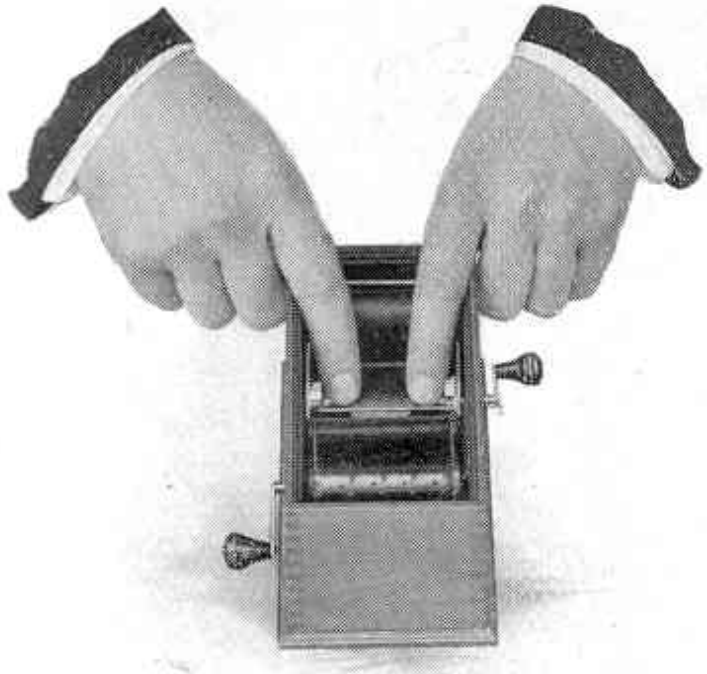


FIG. II.

VI. Thread the red paper underneath the wire guard on Transferring Reel through which axle "D" passes, (Fig. II), and turn axle slowly to right until the word "stop" appears on red paper.

VII. Now hook apron to lugs on axle "D" in precisely the same manner that you hooked the opposite end to axle "C" except that axle "D" turns to the right.

VIII. Turn handle half a revolution so that apron becomes firmly attached and put on cover of box. Turn axle "D" slowly and steadily until red paper, film and apron are rolled up together on Transferring Reel. As soon as this is completed the handle will turn very freely.

IX. Prepare developing solution in solution cup according to directions in V. P. Kodak Film Tank Manual.

X. Remove cover from box and take hold of the red paper which projects beyond the end of the apron. Then wind axle "D" until the red paper becomes taut.

XI. *Draw out axle "D" holding apron and red paper with the other hand to keep end of apron and paper from loosening. Remove entire Transferring Reel, containing apron, paper and film (which is freed by pulling out axle "D") and slip a small rubber band around the apron tightly so that there will be no possibility of its unwinding.*

NOTE: In removing reel do not squeeze the apron, as by doing so there will be a tendency for it to buckle.

FIG. III.

XII. Insert the Transferring Reel (containing apron, paper and film) in the previously prepared developer immediately.

Using the Solution Cup.

XIII. Having filled Solution Cup, lower Transferring Reel into cup with end containing cross bar up (Fig. III). Let reel slide down very slowly so solution will not overflow. The operation of removing reel from box can be done in the light of an ordinary room, but for safety it is well that the light should not be too bright. The total length of time for development is 20 minutes.

NOTE: Immediately after lowering reel into solution cup catch it with the wire hook and move gently up and down two or three times, but not allowing reel to come above surface of developing solution. This is to expel air bubbles.

Allow development to proceed for about two minutes with cover of solution cup off; then place the cover on the cup (Fig. IV.), putting lugs on cover into the grooves, and tighten down by turning to right.

Now turn the entire cup end for end and place in a tray or saucer to catch any slight leak from the cup. At the end of three minutes again reverse the cup, and, thereafter, reverse every three minutes until the time of development (20 minutes) has elapsed. Turning the solution cup allows the developer to act evenly and adds brilliancy and snap to the negatives.

XIV. The wire hook is to be used for lifting the reel out of the cup. Hook the cross bar in

one end of reel. When the end of reel containing cross bar is at the bottom of cup, the hook is just long enough to catch the cross bar.

FIG. IV

XV. When developing is completed pour out developer and fill cup with clear cold water and pour off. Repeat three times. When removing cover of solution cup, place cup in palm of hand so as to obtain a firm grip on bottom of can. Then grip cover with other hand and turn slowly to the left when cover will loosen readily. Then remove Transferring Reel, separate film from red paper and place immediately in the Fixing Bath which should be in readiness, prepared in accordance with directions on page 57.

The film may be separated from the tissue and red paper in the subdued light of an ordinary room if the developer is thoroughly washed out.

The operation of separating film and red paper should be done over a bowl, bath tub or sink.

Any pieces of the tissue or paper that may adhere to the film when it goes into the fixing bath must be removed by gently rubbing with the wet finger before the film is washed and dried.

If the tank is not to be used again immediately, the apron and tank should be washed and wiped dry. The apron must always be perfectly dry when film is rolled up in same.

The apron will dry almost instantly if immersed for a second in hot water.

Keep apron wound on Transferring Reel when not in use. Never leave apron soaking in water.

Important.

When cutting apart exposures made on Autographic Film, after development, always leave the writing next to the foreground of the adjoining negative in the case of vertical pictures, or at the left hand of the negative when looked at from the back, (the back is the shiny side), right side up, in the case of horizontal pictures.

The result is a negative bearing a facsimile of the memorandum written upon the back of the red paper, developed on its margin or face as the case may be. For it is obvious that by winding the film the width of a line the writing may be made to appear in the foreground of a vertical picture (of course the lower line must be written first) or on the left hand side of a horizontal picture.

Time and Temperature for Tank Development.

It sometimes happens that the amateur is not able to obtain or maintain the standard or normal temperature of 65 degrees Fahr. when using the Kodak Film Tank and the Kodak Film Tank Developer Powders. In such cases the following table will be found of value:

Temperature	Time One Powder	Time Two Powders
70 Degrees	15 Minutes	8 Minutes
69 "	16 "	
68 "	17 "	9 "
67 "	18 "	
66 "	19 "	
65 " Normal	**20 " Normal**	**10 " Normal**
64 "	21 "	
63 "	22 "	
62 "	23 "	11 "
61 "	24 "	
60 "	25 "	
59 "	26 "	12 "
58 "	27 "	
57 "	28 "	
56 "	29 "	13 "
55 "	30 "	
54 "	31 "	
53 "	32 "	14 "
52 "	33 "	
51 "	34 "	
50 "	35 "	15 "
49 "	36 "	
48 "	37 "	
47 "	38 "	16 "
46 "	39 "	
45 "	40 "	17 "

Temperature of developer must not exceed 70 degrees Fahr., as above that point there is danger of the film frilling. 45 degrees Fahr. is the lowest temperature at which the developing powders can be dissolved and even at this temperature the powder must be finely crushed and added slowly to the water.

NOTE: Avoirdupois weight is the standard used in compounding photographic formulæ.

It is best to use the normal temperature (65 degrees) when possible, as the use of a developer that is colder than normal has a slight tendency to increase the contrast in a negative while the use of a developer warmer than normal slightly flattens the negatives.

Developing Several Rolls of Film at Once.

Several rolls of film may be developed at the same time if the operator wishes. To do this it is necessary to have a "Duplicating Outfit" consisting of 1 Solution Cup, 1 Transferring Reel and 1 Apron for each additional roll of film to be developed. The extra rolls of film may then be wound on to Transferring Reels as previously described and immersed in the Solution Cups.

Developing in the Dark Room.

Provide an Eastman A B C Developing and Printing Outfit, which is suitable for any negative 4 x 5 or smaller.

A B C Developing Outfit

The Outfit Contains:

1 Kodak Candle Lamp,	$ .25
4 Developing Trays,	.40
1 4-oz. Graduate,	.15
1 4 x 5 Printing Frame,	.25
1 4 x 5 Glass for same,	.05
1 Stirring Rod,	.05
1 Box [5 tubes] Eastman Special Developing Powders,	.25
½ Pound Kodak Acid Fixing Powder,	.15
2 Doz. Sheets 4 x 5 Velox Paper,	.40
1 2-oz. bottle Nepera Solution, for Velox,	.10
1 Package Potassium Bromide,	.10
1 Instruction Book,	.10
	$2.25

Price complete, neatly packed, $1.50

Also provide a pair of shears, a pitcher of cold water (preferably ice water), a pail for slops, and a dark room having a shelf or table.

By a dark room is meant one that is wholly dark—not a ray of light in it. Such a room can easily be secured at night almost anywhere.

The reason a dark room is required is that the film is extremely sensitive to white light, either daylight or lamplight, and would be spoiled if exposed to it even for a fraction of a second.

The Lamp.

Having provided such a room or closet, where, when the door is closed, no ray of light can be seen, set up on the table or shelf the Kodak Candle Lamp.

The lamp gives a subdued red light which will not injure the film unless it is held close to it.

Set the lamp on the table at least eighteen inches from the operator.

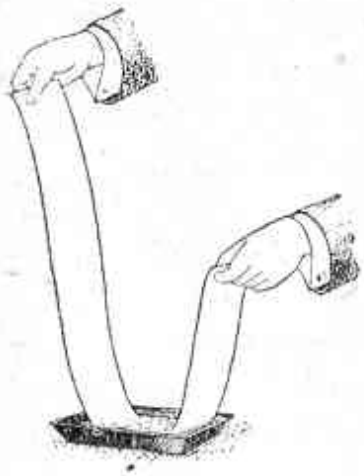
I. Fill one of the trays nearly full of water. (first tray).

II. Open one of the developer powders, then put the contents [two chemicals] into graduate and fill it up to the four-ounce mark with cold water. Stir until dissolved, with the wooden stirring rod, and pour into the second tray.

III. To develop, unroll the film and detach the entire strip from the tissue and red paper.

IV. Pass the film through the tray of clean cold water as shown in the cut, holding one end in each hand. Pass through the water several times, that there be no bubbles remaining on the film. When it is thoroughly wet with no air bubbles, it is ready for development.

V. Now pass the film through the developer in the same manner as described for wetting it, and shown in cut. Keep it constantly in motion, and in about one minute, the high lights will begin to darken and you will readily be able to distinguish the unexposed sections between the negatives and in about two minutes will be able to distinguish objects in the picture. Complete development in the strip, giving sufficient length of development to bring out what detail you can in the thinnest negatives. There is no harm in having your negatives of different density. This can be set right in the printing. The difference in density does not affect the difference in contrast.



Keep the strip which is being developed constantly in motion, allowing the developer to act 5 to 10 minutes. The progress of development may be watched by holding the negatives up to the lamp from time to time.

When developing the film use a red lamp and take care not to hold the film close to the lamp for any length of time. This film is very rapid and is orthochromatic, therefore liable to fog unless handled very carefully.

VI. After completing development, transfer to the third tray and rinse two or three times with clear, cold water.

NOTE: If preferred, the negatives may be cut apart and fixed separately. Instructions for cutting apart Autographic Films are given on page 51.

Fixing.

Provide a box of Kodak Acid Fixing Powder and prepare a fixing bath as per directions on the package. Put this into a tray (fourth tray of an A B C Developing Outfit) or wash bowl. When the powder has thoroughly dissolved add to the solution as much of the Acidifier, which you will find in a small box inside the large one, as directions call for. As soon as this has dissolved the Fixing Bath is ready for use. Any quantity of the bath may be prepared in the above proportions.

Pass the film face down (the face is the dull side) through the fixing solution as shown in cut on page 56, holding one end in each hand. Do this three or four times and then place one end of the film in the tray, still face down, and lower the strip into the solution in folds. (If the negatives have been cut apart immerse them singly.) Gently press the film where the folds occur, not tightly enough to crack it, down into the solution a few times during the

course of fixing. This insures the fixing solution reaching every part of the film. Allow the film to remain in the solution two or three minutes after it has cleared, or the milky appearance has disappeared, then remove for washing.

Film must always be fixed in an acid bath. There is nothing superior to the Kodak Acid Fixing Bath, but the following formula may be used if desired:

ACID HYPO FIXING BATH.

Water, - - - - - - - -	64 ozs.
Hypo, - - - - - - - -	16 ozs.

When thoroughly dissolved, add 4 ozs. Velox Liquid Hardener, or the following hardening solution, dissolving the chemicals separately, and in the order named:

Water, - - - - - - - -	5 ozs.
E. K. Co. Sulphite of Soda, - -	1 oz.
Acetic Acid (28 per cent.), - - -	3 ozs.
Powdered Alum, - - - - -	1 oz.

If preferred, 1 oz. Citric Acid can be substituted for Acetic.

This bath may be made up at any time in advance and may be used so long as it retains its strength, or is not sufficiently discolored by developer carried into it, to stain the negatives.

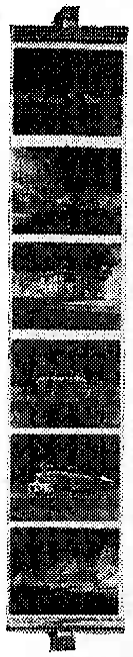
NOTE: If you are using an A B C developing outfit the fixing solution must only be used in tray No. 4, and the negatives, after fixing, must not be put in either No. 1 or No. 2 trays. Neither must any of the fixing solution be allowed to touch the films, through the agency of the fingers or otherwise, until they are ready to go into the fixing bath, otherwise they will be spotted so as to be useless.

Washing.

There are several ways of washing film. It may be placed in a tray or wash bowl of cold

water and left to soak for five minutes each in five changes of cold water, moving about occasionally to insure the water acting evenly upon it, or it may be given, say two changes as above and then left for an hour in a bowl with a very gentle stream of water running in and out.

If negatives have been cut apart, they should not be allowed to mat together, but should be separated a part of the time in order that they may wash thoroughly.



DRYING WITH CLIPS

Drying Film Negatives.

When thoroughly washed, snap an Eastman Film Developing Clip on each end of the strip and hang it up to dry or pin it up. Be sure, however, that it swings clear of the wall so that there will be no possibility of either side of the film coming in contact with the latter.

In tray development, when the film has been cut up, pin by one corner to the edge of a shelf or hang the negatives on a stretched string by means of a bent pin, running the pin through the corner of film to the head, then hooking it over the string.

Instructions for cutting apart Autographic Film Exposures are given on page 51.

Over-Development.

Over-development may be caused by a mistake in leaving film in the developer too long;

by using solution too warm, or by those who mix their own developer in getting the developing agent too strong.

In this case the negative is very strong and intense by transmitted light and requires a very long time to print. The remedy is to reduce by means of Eastman Reducer, or the following method.

Reducer.

First soak negatives 20 minutes in water, then immerse in:

Water, - - - - - - - -	6 ounces,
Hypo, - - - - - - - -	½ ounce.
Potassium Ferricyanide (saturated solution), poison, - - -	20 drops.

Rock tray gently back and forth, until negative has been reduced to the desired density, then wash ten minutes in running water, or in four changes of water.

Negatives may be reduced locally by applying the above solution to the dense parts with a camel's hair brush, rinsing off the reducer with water occasionally to prevent its running onto the parts of the negative that do not require reducing.

Under-Development.

An under-developed negative differs from an under-exposed one, in that it is apt to be thin and full of detail, instead of harsh and lacking in detail.

The defect would be caused by a mistake in removing film from the developer too soon, by

using solution too cold or by an error in compounding chemicals. It is obvious that neither of these defects will occur in Tank Development if instructions are properly followed.

Intensification by Re-Development.

There are a number of different processes for intensifying under-developed negatives, the most common being by means of Bichloride of Mercury, and Sodium Sulphite or Ammonia.

This method, though simple to use, has its disadvantages, as it builds up the highlights out of proportion to the weaker portions of the negative, and also, unless carefully handled is apt to produce iridescent stains, or granular markings that are impossible to remove.

While the method of intensification by re-development is only comparatively new, the now common use of Velox and Royal Re-developer for sepia tones on Velox and Bromide prints will make this the most effective means of intensification.

Velox or Royal Re-developer may be used in exactly the same manner as for producing Sepia tones on developing paper.

Negatives intensified by re-development are built up evenly, without undue contrast and without the chance of staining.

The advantage of being able to use the chemicals for two different purposes (Sepia toning prints or intensifying negatives) is obvious, the result in either case being all that could be desired.

PART V.

PRINTING.

The Use of Autographic Negatives.

AUTOGRAPHIC NEGATIVE.

It is not a part of the Autographic plan that the record be made to appear upon the print, but such record may be reproduced in the print itself or omitted, as desired. Of course, if the record appears within the negative proper it will show on the print, if the print is full size. The illustration on page 62 will show how the record will appear on the negative.

The "Autographic Record Strip" (page 28) 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.

Printing on Velox Paper.

Film negatives yield beautiful soft black and white effects when printed on Velvet Velox.

Manipulation.

Velox prints may be successfully made, using daylight for exposure. Select a north window, if possible, as the light from this direction will be more uniform. *Owing to its sensitiveness, the paper should be handled in subdued light, otherwise it will be liable to fog.* Proper precautions should be taken to pull down the window shades and darken the room sufficiently during manipulation. If the light is too strong for printing it should be subdued or diffused by the use of several thicknesses of white tissue paper. Owing to the varying intensity of daylight, uniform results are not as certain as when using artificial light. In the following instructions for man-

ipulating Velox, it must be understood that artificial light will be the light used. A kerosene lamp, fitted with a round burner, (known as Rochester burner) may be used, but owing to the decidedly yellow light this affords, a considerably longer exposure will be necessary than when using a Mazda lamp.

The comparative exposures with Special Velox from an average negative using various sources of light are as follows.

NOTE—When using Regular or Contrast Velox increase the exposure.

Size of Negative	Distance from Light	60 Watt Mazda	40 Watt Mazda	25 Watt Mazda	Welsbach Burner (Gas)	Average Oil Lamp
3¼ x 5½ 4 x 5 and smaller	10 In.	4 Secs.	6 Secs.	12 Secs.	16 Secs.	50 Secs.

Having provided a suitable light and convenient place to work, arrange three trays before you on your work table in this order:

1 oz. Nepera Solution 4 oz. Water 1	Clean Water 2	X Towel	Kodak Acid Fixing Bath as directed on page 57 3

NOTE.—Do not allow the direct rays of light used for printing to strike tray No. 1, which is used for the developer. Place a piece of red or orange-colored paper between the light and tray No. 1, so as to obtain a subdued and safe light. By doing so you will avoid fogging the paper during development.

Proper temperature is important and for best results the developer should be 70 degrees Fahr. and the fixing bath and wash water 50 degrees Fahr. If the developer exceeds 70 degrees the prints are liable to fog and the emulsion soften. If too cold, chemical action is retarded, resulting in flat, weak prints.

Printing.

Velox may be safely manipulated ten feet from the ordinary gas flame.

Having everything in readiness, open the printing frame of the A B C outfit and lay the negative back down upon the glass—(the back is the shiny side).* Place upon the negative a sheet of the Velox paper face down.

The paper curls slightly, the face or sensitive side being concave; an absolute test is to bite the corner of the sheet; the sensitive side will adhere to the teeth.

The paper not used must be kept covered in its envelope.

Place the printing frame the correct distance from the artificial light used, holding the frame away from the burner a distance equal to the diagonal of the negative. See exposure table, page 64.

We would suggest, when making your first exposures, that a few tests be made. You can then, by comparing your other negatives with

*The strips of gummed paper which are included with the Outfit, are to be used for fastening the negative in place on the glass of the printing frame, or to attach the negative to a mask, so as to prevent it from slipping, which would cause a dark streak to appear between the edge of the picture and the white margin.

the one you have tested, make a fairly accurate estimate of the exposure required by any negative.

Make an exposure, using your best judgment as to the distance from the light and time of printing. If your first experiment is not satisfactory, try another sheet of paper, varying the time for the exposures as indicated by the first result.

When the desired effect is secured, you can make any number of prints from the same negative, and if the time of exposure, distance from light, as well as the time of developing are identical, all the prints should be equally good. You can soon learn to judge a negative so as to get the correct exposure the first time as the paper has considerable latitude.

After taking the exposed sheet of paper from the printing frame, in a safe place previously selected, it is ready for development. The dry print should be immersed face up in the developer (Tray No. 1) and quickly and evenly covered with the solution. Contrast and Regular Velox should be developed not to exceed twenty seconds; Special Velox, about twice as long; no exact time can be given, as the strength of developer used would make a difference in the time.

As soon as the image has reached the desired depth remove from the developer to the second tray and rinse for a moment, turning the print several times, then place it in the acid fixing bath (Tray No. 3) keeping the print moving for a few seconds, the same as was done when

rinsing, so as to give even and thorough fixing, preventing stains and other troubles. Leave the print in this solution until thoroughly fixed; this will take about fifteen minutes. When fixed remove from the fixing bath and wash thoroughly for about an hour in running water, then dry. After drying, prints may be trimmed and mounted.

Do not use a fixing bath that has been used for fixing film.

You should be systematic in working, remembering that cleanliness is essential in photography. Care must be taken to prevent the Hypo fixing bath in any way getting into the tray containing the developer. Have a clean towel when beginning the work and wipe your hands each time after you have handled prints in fixing bath.

Details.

CLEAN DISHES: CLEAN HANDS: The faintest trace of Hypo will spoil the prints if it gets into contact with them before the proper time. Great care should therefore be used to have both hands and trays clean.

DEVELOPER once used should not be carried over and used the next day or subsequently.

Don't

Don't use a tray for developing which has previously been used for hypo solution, pyro developer or final washing.

Don't use an old fixing solution, it is liable to cause trouble.

Difficulties, Their Cause and Remedy.

VEILED WHITES: Caused by forcing development, fogged paper.

REMEDY: Give more time, screen light. Also caused when image flashes up in developer by too much exposure, in which case give less time.

MUDDY SHADOWS: Caused by developer being used for too many prints. Remedy, use fresh developer.

CONTRASTY PRINTS: Caused by insufficient time or negative too harsh. Remedy, give more time; make softer negatives.

FLAT PRINTS: Caused by overtiming or negatives flat. Remedy, give less time in first instance, and if trouble is with negatives, give negatives less time; develop further.

STAINS: Caused by forcing development, or chemically dirty dishes or hands, insufficient fixing, foreign chemicals. Remedy, do not allow chemicals other than those given in formulæ to come in contact with paper; use fresh fixing bath; keep prints in constant motion the entire 15 minutes they remain in fixing, and if due to forcing development give more time in printing.

ROUND WHITE SPOTS: Caused by air bells which form on face of print when developer is first flowed on. Remedy, use more developer, break air bells with finger.

For further particulars, ask your dealer or write us for a copy of the "Velox Book."

Be Sure to Use Pure Chemicals.

To get the best negatives from your films—to get the best prints from your negatives—it is imperative that the chemicals which you use be absolutely pure.

For all our films and paper we furnish powders and solutions mixed to just the proper proportions and compounded from the purest chemicals, rigidly tested in our own laboratories.

But we go even further than this. For those who prefer to mix their own solutions by formula, we have prepared a line of carefully tested standard photographic chemicals.

Don't mar good film and plates and good papers with inferior chemicals.

This seal stands for the highest purity. Be sure its on the package before purchasing.

EASTMAN KODAK CO.
Rochester, N. Y.

PART VI.

Mounting.

The most satisfactory method for mounting prints is by the use of Kodak Dry Mounting Tissue, as by the use of this tissue the print lies perfectly flat in absolute contact even on the thinnest mount and absolutely without curl.

The Tissue comes in flat sheets, dry, not sticky, and easy to handle, and being waterproof, protects the print from any impurities in the mount stock. The process of mounting is as follows: lay the print on its face and tack to the back a piece of the tissue of the same size as the print by applying the point of a hot flatiron to small spots at opposite ends. Turn the print face up and trim to size desired, then place on mount and cover the print with a piece of smooth paper and press the whole surface with a hot flatiron. *Press, don't rub.* The iron should be just hot enough to siss when touched with the wet finger. If the iron is too hot the tissue will stick to the mount and not to the print, if too cold the tissue will stick to the print and not to the mount.

Remedy: Lower or raise the temperature of the iron and apply again.

When mounting with the ordinary paste, prints should be mounted wet. After the prints have been trimmed to correct size, immerse in clean water for a few moments

then place in a pile face down on a sheet of clean glass and squeegee off all surplus moisture, apply the paste with a bristle brush working in the paste thoroughly, then lift the print by the opposite corners, turn it over and place it in proper position on the mount.

Cover with a sheet of clean blotting paper and press into contact with squeegee or rubber print roller.

Coloring Velox Prints.

The various surfaces of Velox are particularly well adapted for coloring, and prints may be made extremely interesting through the many beautiful effects obtained by the use of Velox Transparent Water Color Stamps. No experience is necessary when using these colors and any amateur can secure excellent results as full directions accompany each set of stamps.

Put up in book form, they will be found most convenient. Each book contains twelve colors, arranged in perforated leaflets, making twenty four stamps of each color.

The stamps will also be found most desirable for the coloring of Bromide enlargements, lantern slides, etc., and in fact for all work where perfect blending and transparency of color is required. See price list.

EASTMAN KODAK CO.,
Rochester, N. Y.

PRICE LIST.

Vest Pocket Autographic Kodak *Special*, fitted with Kodak Anastigmat Lens, *f*.7.7,	$10.00
Imported Satin Finish Leather Case,	2.00
Autographic Film Cartridge, eight exposures, 1⅝ x 2½, No. A-127,	.20
Kodak Color Filter, No. 8, for use with Vest Pocket Autographic Kodak *Special*, *f*.7.7,	.50
Kodak Portrait Attachment, No. 8,	.50
Vest Pocket Kodak Film Tank (for developing Vest Pocket Autographic Kodak Film),	2.50
Duplicating Outfit for same,	1.25
*Vest Pocket Kodak Film Tank Developer Powders, per pkg. ½ doz.,	.15
*Kodak Acid Fixing Powder, per 1 pound package,	.25
Do., ½ pound package,	.15
Do., ¼ pound package,	.10
*Eastman Eikonogen Developer Powders (for dark-room development), per dozen pairs,	.50
Do., per ½ doz. pairs,	.25
*Eastman Hydrochinon Developer Powders (do not stain the fingers), per dozen pairs,	.50
Do., per ½ dozen pairs,	.25
*Eastman Pyro Developer Powders, (for dark-room development), per dozen pairs,	.50
Do., per ½ dozen pairs,	.25
*Eastman Hydrochinon, Eikonogen, Pyro and Special Developer Powders, in sealed glass tubes, per box of 5 tubes,	.25
Glass Stirring Rod Thermometer,	.60

Velox Paper, per doz. sheets, 1⅝ x 2½,	$ .10
Velox Transparent Water Color Stamps, booklet 12 colors, complete,	.25
Velox Transparent Water Color Stamp Outfit consisting of Artist's Mixing Palette, three special Camel's Hair Brushes, and one book of Velox Transparent Water Color Stamps (12 colors),	.75
Eastman Printing Masks No. 1, for use with Vest Pocket Kodak Negatives, each,	.06
*Nepera Solution (for developing Velox), 4 ounce bottle,	.20
Solio Paper, per pkg. 2 dozen sheets, 1⅝ x 2½,	.20
*Combined Toning and Fixing Solution, for Solio, per 8 ounce bottle,	.50
Do., 4 ounce bottle (in mailing case, including postage, $ .50),	.30
*Eastman Reducer, per pkg. of 5 tubes,	.25
*Royal Re-Developer, per pkg. of 6 tubes,	.75
*Eastman Flash Sheets, No. 1, per pkg. ½ dozen,	.25
Do., No. 2, per pkg. ½ doz.,	.40
Do., No. 3, per pkg. ½ doz.,	.60
Kodak Flash Sheet Holder,	1.00
Kodak Dry Mounting Tissue, 4 x 5, 2 doz. sheets,	.08
Eastman Photo Blotter Book, for blotting and drying prints,	.25
Eastman Film Developing Clips, (nickeled), 3½ inch, per pair,	.25
Kodak Film Clips, (wooden), 5 inch, per pair,	.15
Kodak Junior Film Clips, each,	.10
Kodak Print Roller, Double, 6 inch,	.50
Flexo Print Roller, Single, 4 inch,	.15

Kodak Dark Room Lamp, No. 2, 5/8 inch wick,	$1.00
Eastman Film Negative Albums, to hold 100 1 5/8 x 2 1/2 negatives,	.75
Kodak Trimming Board No. 1, capacity 5 x 5 inches,	.40
Bevplane Mounts, for prints 1 5/8 x 2 1/2, per 100,	.60
Do., per 50,	.30
The Arena Album, 50 Black or Sepia leaves, size 5 1/2 x 7,	1.00
Developing, Printing and Mounting, on Velox, 1 5/8 x 2 1/2, per roll of 8 exposures,	.65
Do., unmounted, per roll of 8,	.60
Developing only, per roll of 8 exposures,	.30
Printing and Mounting only, on Velox, each,	.06
Do., unmounted,	.05 1/2

No orders executed for less than 25 cents.

All prints furnished unmounted unless otherwise specified.

3 1/4 x 5 1/2 Bromide Enlargements, made from negatives 1 5/8 x 2 1/2, unmounted, each,	.15
Do., mounted,	.16
8 x 10 Bromide Enlargements, mounted on card,	.75

On enlargement orders, if, in our opinion, the print will be improved by double mounting, we will do so at an additional charge of ten cents, or triple mounted at fifteen cents.

*Prices subject to change without notice.

EASTMAN KODAK COMPANY,
Rochester, N. Y.

APPLICATION FOR MEMBERSHIP IN THE KODAK CORRESPONDENCE COLLEGE

Eastman Kodak Co., Rochester, N. Y.
K. C. C. Dept.,

Gentlemen: I am owner of a (name camera and size) .....

.....

and wish to be enrolled as a member of "The Kodak Correspondence College." I therefor enclose herewith { *Draft* / *P. O. Money Order* / *Express Money Order* } *for two dollars, for which please send me a volume, library edition, of "How to Make Good Pictures," and a certificate of membership entitling me to a full course in the "Kodak Correspondence College,"*

(Name) E. Jilly

(Street and No.) 51 Prospect St

(City) Westfield Sta L.I. *(State)* N. Y.

TEAR OFF HERE.