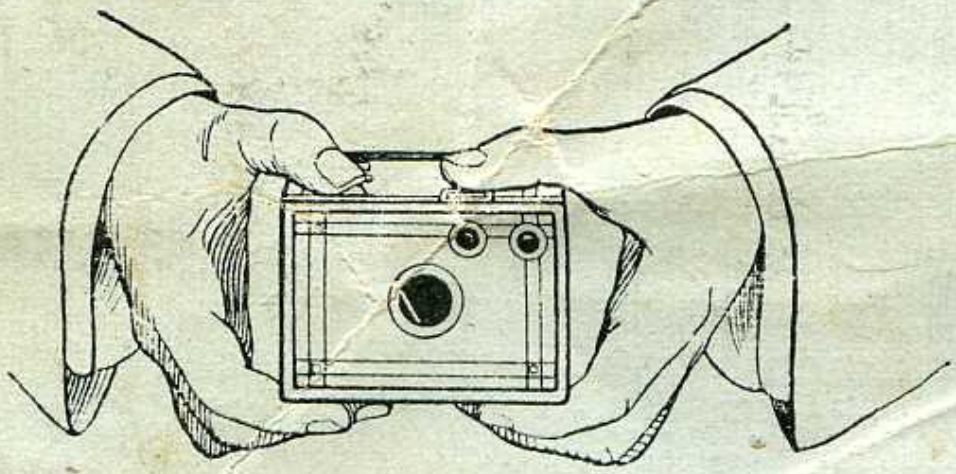
DIRECTIONS FOR USING

The No. O BROWNIE CAMERA



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EASTMAN KODAK CO.,
ROCHESTER, N. Y.

KODAK

Trade Mark, 1888

EASTMAN KODAK CO.

ROCHESTER, N. Y.

MANUFACTURERS OF

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Kodiopticons
Kodak Film Tanks
Velox Paper
Eastman Film
Kodak Dry Mounting Tissue
Eastman Solio Paper
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Eastman Standard Bromide Paper
Eastman Royal Bromide Paper
Eastman Velvet Bromide Paper
Eastman Brilliant Velvet Bromide Paper
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Eastman Enameled Bromide Paper
Eastman Matte-Enamel Bromide Paper
Eastman Transparency Plates
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June, 1916.

TEAR OFF HERE

"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.

TO THE EASTMAN KODAK CO., Rochester, N. Y.

In accordance with your offer, please place my name on the mailing list for "KODAKERY" (with the understanding that there is to be no cost to me) I having purchased a

_____
(Kind of Camera)

from _____
(Name of Dealer)

on _____
(Date here)

Write name and address plainly _____

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. 328 16.

BEFORE LOADING

Before taking any pictures with the No. O Brownie Camera 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 operations of loading, and unloading, be extremely careful to keep the duplex paper wound tightly around the film to prevent the admission of light.

EASTMAN KODAK CO.,
Rochester, N. Y.

ORDER FILM BY NUMBER

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

127

is the number for films for this camera (No. O Brownie). The number appears on both carton and cartridge.

PART I

Loading the Brownie Camera

The film for the Brownie Camera is put up in light-tight cartridges, and the Camera can, therefore, be loaded in daylight. This operation should, however, be performed in a subdued light, not in the glare of bright sunlight.

The Film No. 127

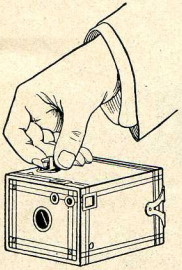


FIG. I.

To Load

1. Take a position at a table as far as possible from any window, place the camera on the table before you and pull out on the winding key as shown in Fig. 1.

Now open back of camera by lifting up metal catch on side of camera as shown in Fig. II, then open the door as in Fig. III.

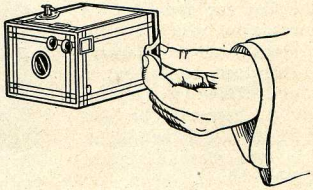


FIG. II.

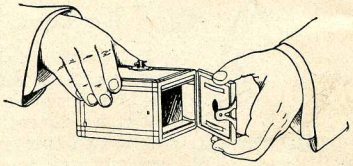


FIG. III.

3. Grasp bottom of camera and hold as in Fig. IV, and the roll holder will slide out freely.

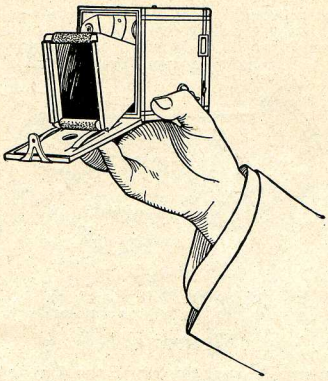


FIG. IV.

4. Examine this roll holder carefully and it will be seen that at each forward corner there is a recess which will just hold a spool of film. In the recess on the right side will be seen an empty spool, which is to be used as the reel.

5. On the top and over the recesses to hold the spools will be found two metal

spool retainers. Lift up the retainer at the left hand side, after releasing it by pushing outwards on catch in the front as shown in Fig. V. Insert spool and push the retainer

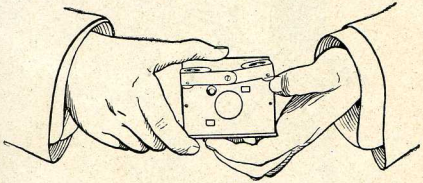


FIG. 5.

back into place so that pin at end of film spool will fit into the hole in the retainer.

Important

Be sure and get the top of spool at top of roll holder when inserting, otherwise your film will come on the wrong side of the duplex paper, when reeled off, and total failure will result. Insert the full spool so that the slit in the end of spool will be at the bottom, while at the same time the slit at end of the empty spool, (which is used as the reel) is at the top of the roll holder. You can readily tell the top side of roll holder, as it is marked "Top." Each cartridge is also marked, the word "Top" will be found printed on the duplex paper near the top of the spool.

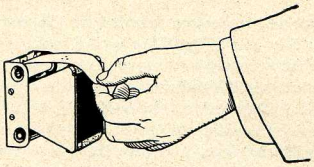


FIG. VI.

6. Now break the gummed slip that holds down the end of duplex paper, and pass the

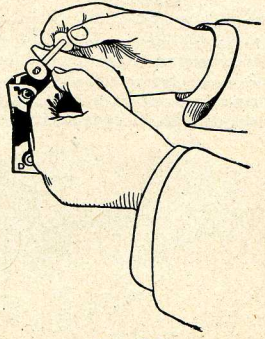


Fig. VII.

duplex paper across opening in the back of the roll holder (Fig. VI): take the empty reel from its recess by lifting up the metal spool retainer, and thread the duplex paper through the slit in this reel, as shown in Fig. VII, *being extremely careful to have the paper draw straight and true*, and give the spool two or three forward turns (to the left from the key end) and re-insert in the recess pushing the spool retainer back into place.

Caution

If you turn off too much of the duplex paper, before the camera is closed, the film will be uncovered and ruined.

7. The camera is now to be closed, reversing the operations shown in Figs. II, III and IV, pages 4 and 5. In re-inserting the roll

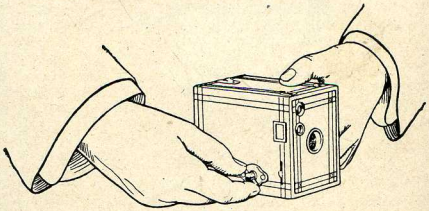


Fig. VIII.

holder in the outside box, **remember that** the slotted end of winding reel which shows through round hole in spool retainer in top of roll holder, must be uppermost, so as to come opposite the key in outside box.

8. Press down on, and at the same time, turn the winding key until it fits into position, the web at lower end of the key fitting into slit in spool end. This is a reversal of the operation shown in Fig. I, page 3. See Fig. VIII.

9. Turn the key to the left for about fifteen turns until an index hand appears before the little red window in back of the camera, this hand is a warning that you are approaching Fig. I, then turn key very slowly until Fig. 1 appears before the red window, (Fig. IX).

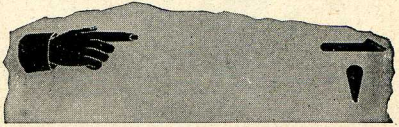


Fig. IX.

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

PART II

Making the Exposures

Sec. 1—Instantaneous Exposures

("SNAP-SHOTS")

The shutter of the No. O Brownie Camera is always set, and is operated by pushing the lever alternately to right or left with the thumb.

If the lever stands at the right hand side of slot, simply push it to left and *vice-versa.*

If the spring should be pushed the wrong way, the shutter would simply remain unmoved, and no "click" would be heard, thus indicating that it should be pushed in the opposite direction.

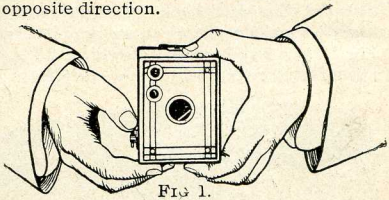


FIG. 1.

To take instantaneous pictures 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.

Aim the camera at the object to be photographed and locate the image in the finder. There are two finders, one for vertical and the other for horizontal exposures.

For a vertical exposure the camera should be held as shown in Fig. 1, page 10.

For a horizontal exposure the camera should be held as shown in Fig. 2, page 11.

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

All being in readiness.

Hold the Camera Steady and Level

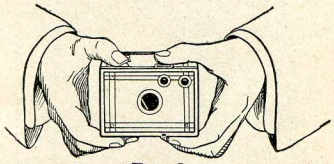


FIG. 2

and press the shutter lever to one side with the thumb of the right hand.

This makes the exposure.

Important

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

Turn a new section of film into position by turning the key slowly to the left until the next number appears before the window.

Pull out the time slide on left-hand side of camera front, as shown by A in Fig. II. When this slide is pulled out the shutter

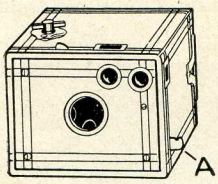


FIG. II.

strikes it as it passes the lens, stopping half way across with the opening opposite the lens.

All being in readiness, steady the camera with one hand and push the lever to open the shutter; give the proper time (using a watch if more than two seconds) and press the lever in the opposite direction to close the shutter.

Turn a new film into position as described before. (See page 11.)

For interiors, the following table is a good guide:

Time Needed for Interior Exposures

White walls and more than one window:

bright sun outside, 2 seconds;
hazy sun, 5 seconds;
cloudy bright, 10 seconds;
cloudy dull, 20 seconds.

White walls and only one window:

bright sun outside, 3 seconds;
hazy sun, 8 seconds;
cloudy bright, 15 seconds;
cloudy dull, 30 seconds.

Medium colored walls and hangings and more than one window:

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

Medium colored walls and hangings, and only one window:

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

Dark colored walls and hangings and more than one window:

bright sun outside, 10 seconds;
hazy sun, 20 seconds;
cloudy bright, 40 seconds;
cloudy dull, 1 minute, 20 seconds.

Dark colored walls and hangings and only one window:

bright sun outside, 20 seconds;
hazy sun, 40 seconds;
cloudy bright, 1 minute, 20 seconds;
cloudy dull, 2 minutes, 40 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.

To Make a Portrait

Place the sitter in a chair partly facing the Camera (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. For a bust picture, the camera should be five feet from the figure; for a three-quarter figure eight feet, and for a full figure ten feet. The background should form a contrast with the sitter.

Kodak Portrait Attachment

By means of a Kodak Portrait Attachment used with the No. O Brownie Camera, head and shoulder pictures of increased size may be obtained.

Use Kodak Portrait Attachment No. 1 with the No. O Brownie Camera.

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 in lens opening in front-board, and in no way affects the operation of the camera except to change the focus. Price 50 cents. Be sure to specify what camera the attachment is to be used with when ordering.

Time Exposures in the Open Air

On cloudy days time exposures may be made in the open air.

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

WITH HEAVY CLOUDS—From one-half to one second will be sufficient.

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 shadows under porches or under trees, no accurate directions can be given; experience only can teach the 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.

SECTION 3

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 medium, 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 a direct line of view which cannot be darkened sufficiently to prevent the blurring of the picture.

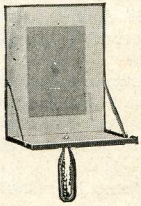
Evening parties, groups around a dinner or card table or single portraits may be readily made by the use of our flash sheets, thus enabling the amateur to obtain souvenirs of many occasions which, but for the flashlight, would be quite beyond the range of the art.

PREPARATION FOR THE FLASH—The camera should be prepared for time exposure, as directed on page 13 of this manual, 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 instrument, 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 camera. 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 this purpose. The sheet is placed in position in the center of the larger pan over 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 sheet 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 Camera and the flash sheets 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 push the lever to close the shutter 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 one No. 1 sheet.

For 10 feet distance and dark walls and hangings use one No. 2 sheet.

For 15 feet distance and light walls and hangings use one No. 2 sheet.

For 15 feet distance and dark walls and hangings use one 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 camera (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 about 8 feet, and for a full figure about 10 feet.

The flash should be on the side of the Camera 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 16.

TO MAKE A GROUP—Arrange the chairs in the form of an arc, facing the Camera, so that each chair will be exactly the same distance from the instrument. 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 figures 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.

A *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 when absolutely instantaneous work is essential.

PART III

Removing the Film

No dark room is required in changing the spools in the Brownie Camera.

The operation can be performed in the open air, but to avoid all liability of fogging the edges of the film, it had best be performed in a subdued light.

1. When the last film has been exposed, give the key fifteen extra turns. This covers the film with duplex paper again.

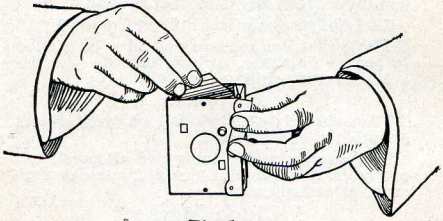


Fig. 1.

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

3. Open the back and remove roll holder as shown on pages 3 to 5.

4. Lift the metal spool-retainer at the right side of roll holder, (Fig. 1) and remove exposed cartridge holding it tightly to prevent paper from loosening. Fold over half an inch at end of duplex paper (so as to make subsequent breaking of the seal easy) and then seal with sticker. Now wrap up exposed film in paper to prevent all possibility of injury by light.

5. Now take the empty spool from the recess on the left side of camera, and transfer to the winding side, bringing the slotted end, into which key is to fit at the top.

6. Load as described in Part I, page 3.

The roll of exposures can now be mailed to us for finishing, or you can do the developing and printing yourself.

Important

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 closly 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 duplex paper keeps inside the flanges.

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 methods of developing film give better results than the dark room way.

Films may be developed in daylight in two ways; by the Brownie Developing Box method, or by the Kodak Film Tank. Both methods are the same in principle, the Brownie Developing Box being a simplification of the Kodak Film Tank, such simplification being made possible by the short length of the Brownie Film.

For developing Brownie Film we recommend the Brownie Developing Box for simpleness, the result with either the Brownie Developing Box or the Kodak Film Tank being equal.

How to Use the Brownie Developing Box

The Brownie Developing Box is simply a light tight box of sufficient length to permit the unrolling of the film within it so the

developer may act upon it. The film is unrolled and extended in one loop by means of a cord and winding roller within the box, and is supported in position by means of another roller placed at the opposite end of the box.

A dummy cartridge is provided with each Brownie Developing Box with which one should experiment before attempting to develop an exposed film.

Be Sure

It is most important that the user of the Brownie Developing Box experiment thoroughly with the dummy film spool. Put this spool through the machine a number of times until you are perfectly familiar with all the operations and can perform them without referring to the manual.

After the dummy spool has been unrolled see if the white paper, representing the film in the dummy spool, is on the *outside* of the loop. If it is not, the spool has not been correctly inserted. The film must be on the outside with the duplex paper on the inside of the loop.

When you thoroughly understand all operations and are ready to develop a roll of film, prepare the developer and fixing bath

for immediate use, according to directions on pages 38 and 43.

1. Remove cover from box by springing out metal clasps, as shown in Fig. I.

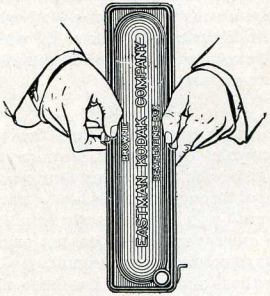


FIG. I

2. Then fully unwind cord from roller A. Attached to the cord is a metal clip called the Spool Carrier, in which the roll of film is to be placed, as explained in paragraph 5 following.

3. Lift up roller B, being careful not to pull spring above lugs inside of box, and

pass spool carrier and cord *over* and around same, as shown in Fig. II.

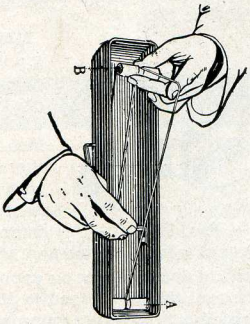


FIG. II.

4. **IMPORTANT.** Film to be used in the Brownie Developing Box must be fastened to the duplex paper at both ends. All films are fastened at one end at our factory.

To fasten the other end break gummed sticker, and holding spool with the *unprinted* side of the duplex paper up, unroll the duplex paper slowly until you uncover one

inch of the piece of gummed paper which is fastened to end of film and is to be used as a means of fastening film to duplex paper, See Fig. III.

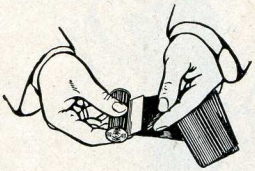


FIG. III.

Moisten the gummed side of sticker evenly for about an inch across the end and stick it down to duplex paper rubbing thoroughly to secure perfect adhesion.

Wind end of duplex paper on spool again and hold spool tightly clasped in the hand for a few moments to insure gummed sticker holding fast.

5. Insert spool of film in spool carrier as shown in Fig. IV.

NOTE.—When developing No. 0 Brownie or Vest Pocket Kodak film in the Brownie Developing Box, it is necessary to use the wire adapter that is included with each Brownie Developing Box. In order to use this, spring the adapter so that the coiled ends will slip over projecting centers on film spool, then insert adapter and spool into carrier, making sure that the pins on carrier are securely in place at the ends of the adapter.

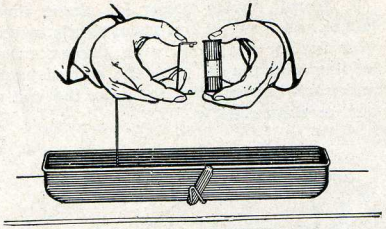


FIG. IV.

6. Turn spool carrier so the duplex paper will unroll from the top and draw it along bottom of box toward Roller A taking care

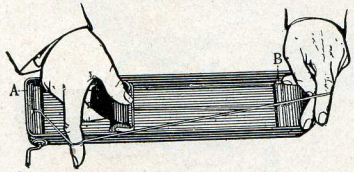


FIG. V.

to keep it *underneath* the cord which passes over Roller B. See Fig. V.

7. Unroll duplex paper for about three inches and, holding film spool tightly to prevent further unrolling, with duplex paper leading from the *top* pass the end of paper under and between Roller A, and the end of box, as shown in Fig. VI.

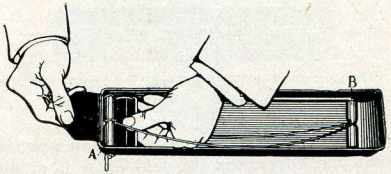


FIG. VI.

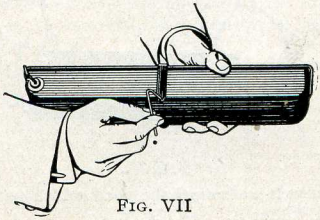


FIG. VII

8. Push rocking base into position, as shown in Fig. VII.

9. Having prepared your developer according to directions given on page 38, hold spool carrier tightly against roller A, and draw out duplex paper until the word "stop" appears, as shown in Fig. VIII.

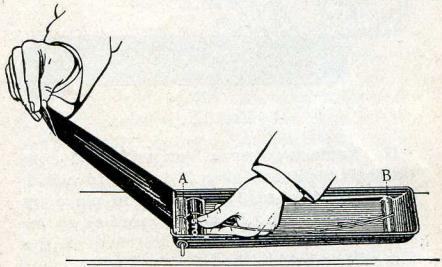


FIG. VIII.

10. Make sure that the card is drawn taut and perfectly centered in groove in Roller B, then holding end of box containing Roller B

down (opposite end from that containing film) pour in the developer, as shown in Fig. IX.

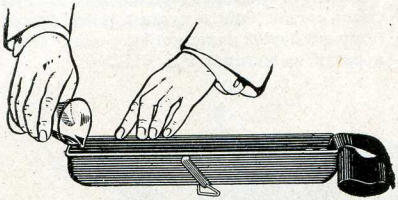


FIG. IX.

11. Replace cover on box with end containing cork over Roller A (roller to which handle is attached), and fasten in place by the metal clasps. *Be sure the cork is in the cover.* When the cover is fastened on the film will be held in place by the duplex paper projecting from the end of the box.

12. Holding box with the Roller B end *down*, unroll the film by turning the crank to the right, as indicated by arrow stamped on side of box; When the film is fully unrolled the handle will refuse to turn. See Fig. X.

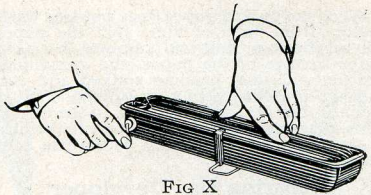


FIG X

13. Rock the box gently on its standard for six minutes, when development will be complete.

14. Now remove the cork from cover and pour out developer, fill box with clear water and pour off, repeating this operation three times to wash the film.

Then remove cover from box, take film spool out of spool carrier and withdraw film and duplex paper, separate film from duplex paper and place immediately in the Fixing Bath, which must be in readiness, prepared in accordance with directions on page 43.

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

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

When the duplex paper does not free itself readily from back of film, split the paper where possible; this will remove the hard outer surface of the paper, the remaining portion will soon become soaked and can then be removed easily by rubbing gently, while immersed, with the ball of the finger. This adhering of the duplex paper to the film is almost invariably caused by the use of a too warm developer.

Preparing the Developer

We recommend the use of Pyro. The Brownie Box and Kodak Tank Developer Powders, put up by us, are prepared especially for use with our film and the Brownie Developing Box or the Kodak Film Tank, and are made from carefully tested chemicals.

Fill graduate with four ounces of lukewarm water, open one of the powders and dissolve in it the contents of the large package. Next dissolve the contents of the small package in the solution. When film is ready to develop, pour the contents of graduate into the Brownie Developing Box and add eight ounces of cold water, and the developer will be ready. **The temperature of the developer must be between 62 and 65 degrees Fahr.** In extremes of weather, test temperature of developer with a thermometer.

If some of the contents of the small package stick to the paper, dip the paper into the solution to remove.

The developer must always be mixed fresh and used for only one roll of film.

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 Dozen Sheets 4 x 5 Velox Paper	.40
1 2-oz. Bottle Nepera Solution	.10
1 Package Potassium Bromide	.10
	$2.15

Price, complete (including Instruction Book), 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.

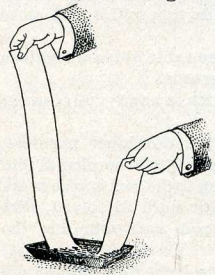
1. Fill one of the trays nearly full of water (first tray).

2. 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.

3. To develop, unroll the film and detach the entire strip from the duplex paper.

4. 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.

5. 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 Eastman 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.

6. 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.

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 42, 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 "

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%)	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

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

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.

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 10 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 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.

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.

*NOTE: 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 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 51.

We suggest before making your first exposure that a few tests be made. You can then, by comparing your other negatives with 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 piece 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 print 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 formulae 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 the 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."

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 COMPANY,

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 water proof, 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.

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 papers we furnish powders and solutions mixed in 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 formulæ, we have prepared a line of carefully tested standard photographic chemicals.

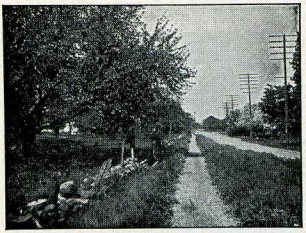
Don't mar good films and plates and good paper with inferior chemicals.

This seal stands for the highest purity. Be sure it's on the package before purchasing.

EASTMAN KODAK CO.,
Rochester, N. Y.

Clean Lenses

Dirty or dusty lenses are frequently the cause of photographic failures. These pictures illustrate this point clearly. The sharp

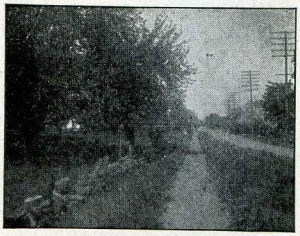


CLEAN LENS

full timed picture above was taken with the lens clean and in good order. To produce the effect shown in the picture on the next page, the operator lightly touched the face of the lens with his thumb, which was slightly damp with perspiration.

Lenses should be frequently examined by looking *through* them, and if found to be

dirty, should be wiped both front and back, with a clean, soft, linen handkerchief. In Summer weather this needs special attention. Large spots of dust or dirt on the lens will cause defects in the picture, while if the lens is evenly covered with a film of



DIRTY LENS

dust, dirt or moisture, the effect will be to cut off a great deal of light and make the picture undertimed.

Keep Dust Out of the Camera

Defective negatives are often caused by particles of dust which have collected on the

inside of the camera and settle upon the film in particles that produce small dark spots upon the prints.

It is therefore well to wipe out the inside of camera occasionally, with a slightly damp cloth. In summer weather or after the camera has remained idle for any length of time, this needs special attention.

PRICE LIST

No. O Brownie Camera, capacity 8 exposures, 1⅝ x 2½, not loaded	$1 25
Eastman Film Cartridge No. 127, 8 exposures, 1⅝ x 2½	20
Carrying Case for No. O Brownie Camera	50
Kodak Color Filter and Kodak Sky Filter No. 1 for use with No. O Brownie Camera	50
Kodak Portrait Attachment No. 1	50
Brownie Developing Box No. 2	1 25
Vest Pocket Kodak Film Tank, (for developing Vest Pocket Kodak Film), which is used in the No. O Brownie Camera	2 75
Duplicating Outfit for same	1 40
Developing Powders for Brownie Developing Box or Vest Pocket Kodak Film Tank, per pkg. ½ doz	15
Kodak Acid Fixing Powder, 1 lb. pkg	25
Do., ½ lb. pkg	15
Do., ¼ lb. pkg	10
Eastman Eikonogen Developer Powders (for dark-room development), per doz. pairs	50
Do., per ½ doz pairs	25

Notice—Prices subject to change without notice.

Eastman Hydrochinon Developer Powders (do not stain the fingers), per doz. pairs	$ 50
Do., ½ doz. pairs	25
Eastman Pyro Developer Powders, (for dark-room development), per doz. pairs	50
Do., per ½ doz. pairs	25
Eastman Hydrochinon, Eikonogen, Pyro or Special Developer Powders, in sealed glass tubes, per box of 5 tubes	25
Glass Stirring Rod Thermometer	75
Velox Paper, per dozen sheets, 1⅝ x 2½	10
Velox Transparent Water Color Stamps, complete booklet of 12 colors	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 No. O Brownie Negatives, each	06
Nepera Solution (for developing Velox) 4 oz. bottle	20

Notice—Prices subject to change without notice.

Solio Paper, per pkg. 2 doz. 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, package 5 tubes..... 25

Royal Re-Developer, per package, 6 tubes..... 75

Eastman Flash Sheets, No. 1, per pkg. ½ dozen..... 35

Do., No. 2, per pkg. ½ doz 56

Do., No. 3, per pkg. ½ doz 84

Kodak Flash Sheet Holder..... 1 00

Kodak Dry Mounting Tissue, 4 x 5, 2 dozen sheets..... 08

Eastman Film Developing Clips, (nickeled) 3½ inch, per pair 25

Kodak Film Clips, (wooden) 5 inch, per pair..... 15

Kodak Junior Film Clips, each..... 12

Kodak Print Roller, double, 6 inch 50

Flexo Print Roller, single, 4 inch..... 20

Kodak Dark-Room Lamp, No. 2, ⅝ inch wick..... 1 00

Eastman Film Negative Album, to hold 100 1⅝ x 2½ negatives 75

Kodak Trimming Board No 1, capacity 5 x 5 inches 40

Notice—Prices subject to change without notice.

Eastman Photo Blotter Book, for blotting and drying prints..... $ 40

Bevplane Mounts for prints, 1⅝ x 2½ per 100..... 70

Do., per 50..... 35

The Arena Album, 50 Black or Sepia leaves, size 5½ x 7 ..... 1 00

Developing, Printing and Mounting, on Velox, 1⅝x2½, 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, 1⅝ x 2½ each 06

Do., unmounted 05½

No orders executed for less than 25 cents.

All prints furnished unmounted unless otherwise specified.

3¼ x 5½ Bromide Enlargements, from negatives 1⅝ x 2½, unmounted 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.

Notice—Prices subject to change without notice.

EASTMAN KODAK CO.,

Rochester, N. Y.

Application for Membership in the Kodak Correspondence College.

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

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

.....

and wish to be enrolled as a member of "The Kodak Correspondence College,"

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

(*Name*) .... (*Street and No.*) ... .

(*City*).... .... (*State*).... .....

Tear Off Here.