

This manual is for reference and historical purposes, all rights reserved.

This page is copyright© by M. Butkus, NJ.

This page may not be sold or distributed without the expressed permission of the producer
I have no connection with any camera company

On-line camera manual library

This is the full text and images from the manual. This may take 3 full minutes for the PDF file to download.

If you find this manual useful, how about a donation of \$3 to: M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701 and send your e-mail address so I can thank you. Most other places would charge you \$7.50 for a electronic copy or \$18.00 for a hard to read Xerox copy.

This will allow me to continue to buy new manuals and pay their shipping costs.

It'll make you feel better, won't it?

**If you use Pay Pal or wish to use your credit card,
click on the secure site on my main page.**

PayPal Name Lynn@butkus.org

PICTURE TAKING
WITH THE
No. 2 FOLDING
Brownie Camera



50465-05

PRICE TEN CENTS

EASTMAN KODAK CO.
ROCHESTER, N. Y., U. S. A.

PICTURE TAKING
WITH THE
No. 2 FOLDING
Brownie Camera



PRICE TEN CENTS

EASTMAN KODAK CO.
ROCHESTER, N. Y., U. S. A.

Before Loading

BEFORE taking any pictures with the No. 2 Folding, Brownie Camera read the following instructions carefully, and make yourself perfectly familiar with the instrument, taking especial care to learn the construction of the shutter. Work it for both time and instantaneous exposures several times before threading up the film.

The first 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 fraction of a second when it comes through the lens can destroy the film as quickly as it makes the picture. Until it has been developed and washed, the film must never be exposed to white light (this includes gas light, lamp light, etc.), or it will be ruined. Throughout all the operations of loading and unloading, therefore, be extremely careful to keep the black paper wound tightly around the film to prevent the admission of light.

CONTENTS

- PART I—Loading
- PART II—Making the Exposures
- PART III—Removing the Film
- PART IV—Developing
- PART V—Printing on Solio Paper

PART I

Loading the Camera

THE film for the No. 2 Folding Brownie Camera, the regular No. 2 Brownie film 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 black paper taut on the spool, otherwise it may slip and loosen sufficiently to fog the film.



The Film

1. To load the camera, take a position at a table where the daylight is somewhat subdued, and open back of camera by pushing on metal slide lock as shown in Fig. 1. The back of camera will loosen and may be allowed to drop down.



FIG. 1

2. Pull out the metal roll holder from the recess at the end of camera which has not the winding key. In the recess on the other side will be seen an empty spool which is to be used as a reel for the film.

3. Now insert spool of film in the roll holder opposite the winding end. Snap tension clip back into place with roll of film in it.

Important

Be sure and get the top of spool at top of camera (each spool is marked on the end) when inserting, otherwise your film will come on the wrong side of black paper when reeled off and total failure will result.

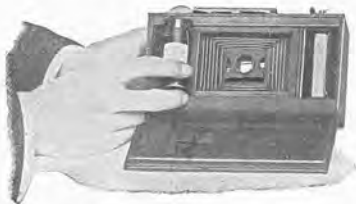


FIG. 2

Be careful in so doing that the paper draws straight and true, and give the spool two or three turns, (to the left from the key end). Fig. 4.

Caution

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

5. The camera is now to be closed, reversing the operations shown in Fig. 1, page 5.



FIG. 3

Throughout the foregoing operations, from the time the gum slip is cut on the fresh roll of film

until the back of camera is closed, keep the black paper wound tightly on the roll. If it is allowed to loosen, light will be admitted and the film fogged.



FIG. 4

celluloid window at the back of the camera. When fifteen to eighteen turns have been given, the number one will appear before the window. Fig 5.

6. The roll of film in the camera is covered with black paper and this must be reeled off before a picture can be taken. Turn the key slowly to the left and watch in the little red



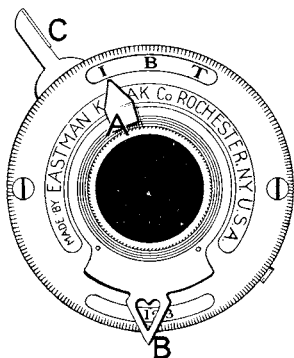
FIG. 5

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

PART II

Making the Exposures

BEFORE making an exposure with the No. 2 Folding Brownie Camera, either time or instantaneous, be sure of four 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 the camera is focused.

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

SECTION 1

Operating the Shutter

Perfect familiarity with the shutter is essential to successful picture taking with any camera. The following directions should, therefore, be carefully read and the shutter operated several times before threading the film up for use.

" Snap Shots "

For all Ordinary Instantaneous Exposures

- FIRST**—Set the lever A at the point "I." This adjusts the shutter for instantaneous exposures.
- SECOND**—Set the lever B at No. 1. Lever B controls the Iris diaphragm and No. 1 is the proper opening for ordinary instantaneous exposures.
- THIRD**—Press down the release C. This makes the exposure.

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 No. 2 or 3. See instructions for use of stops, page 16.
- THIRD**—Touch the release C. This opens the shutter. Time exposure by the watch. Again press the release. This closes the shutter.

Bulb Exposure

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

- FIRST**—Set the lever A at the point "B" (bulb). This adjusts the shutter for bulb exposures.
- SECOND**—Set the lever B controlling the stops, at No. 2 or 3, as desired.
- 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.

Do not oil any part of the shutter.

In case of accident return shutter to your dealer or to us for repairs.

SECTION 2

Instantaneous Exposures—"Snap Shots"

To take instantaneous pictures the object must 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.

Focus on the Subject

1. Press the concealed button as shown in Fig. 1, and push down the bed of camera to the limit of motion.

2. Grasp the bottom of front board to pull out the front.

3. At the front of camera bed and on the side opposite finder, you will see a scale with slots marked 8, 20 and 100 feet. Fig. 2.

This is for focusing the camera. Before extending bellows set the catch A in the slot corresponding to the distance away of the principal object to be photographed.

The catch is set by downward pressure on the lever and then moving to right or left. It is not necessary to estimate the distance with any more than approximate accuracy; for instance, if the focus



FIG. 1
Opening
the
Front



FIG. 2

is set at 20 feet (the usual distance for ordinary street work) the sharpest part of the picture will be the objects at that distance from the camera, but everything from 12 to 50 feet will be in good focus. For general street work the focus may be kept at 20 feet, but where the principal object is nearer or farther away, the focus should be moved accordingly. For distant views set the focus at 100 feet.

Extending the Front

Now extend front of camera to limit of motion (Fig. 3). This sets the focus for the distance you have placed the catch on the scale. A click will be heard when the front locks.



FIG. 3
Extending the
Front

Making the Exposure

Aim the camera at the object to be photographed and locate the image in the finder, which is at the left hand corner of front-board.

The finder shows the scope of view and gives a fac-simile of what the picture will be. On the face of the ground glass in the finder you will notice four lines. When using for horizontal exposures the subject may occupy the entire width of finder, but must be located between the upper and lower lines to insure its appearing in the picture. Hold the camera

steady—hold it level as shown in Fig. 4, and push the lever. This makes the exposure.

FIG. 4.
Pressing
Snap-Shot
Lever



For a vertical exposure the camera must be held on its side. Fig. 5. Reverse the finder so that it will be available for vertical exposures. For vertical exposures the subject may occupy the entire height of the finder, but must be located between the two side



FIG. 5

lines to insure appearing in the picture. The finder gives the scope of view and shows a fac-simile of the picture as it will appear, but on a reduced scale. Any object that does not show in the finder will not show in the picture.

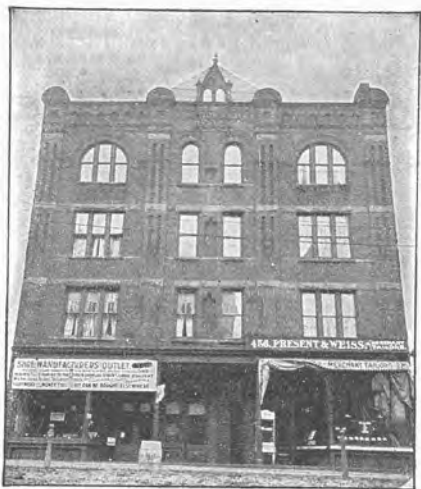


FIG. 6

Hold it Level

The camera must be held level.

If the operator attempts to photograph a tall building while standing near it, by pointing the camera upward (thinking thereby to center it) the result will be similar to Fig. 6.

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 on the top of the camera.

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

TURN A NEW SECTION OF FILM INTO POSITION :
Turn the key in top of camera slowly to the left, until the next number appears before the red window. Three or four turns will be sufficient to accomplish this. See Fig. 7.



FIG. 7

Repeat the foregoing operations for each picture.

SECTION 3

Time Exposures—Interiors

1. Put the camera in position on a tripod or some other firm support. Fig. 8.

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

Make the exposure with the shutter as described on page 9.



Fig. 8
Making a
Time
Exposure

Time Needed for Interior Exposures

This table is for the largest stop. When the second stop is used double the time; when the smallest stop is used give four times the time of table.

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.

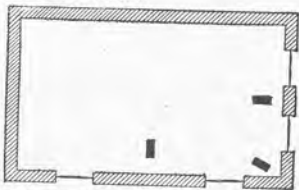


Diagram Showing Position of Camera

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 and 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. By means of a Kodak Portrait Attachment used with the No. 2 Folding Brownie Camera, head and shoulder pictures of increased size may be obtained.

With the Kodak Portrait Attachment in position and the focus set at 8 feet, the subject should be placed 3 feet from the lens. With the focus set at 20 feet the subject should be placed $3\frac{1}{2}$ feet away. With the focus set at 100 feet the subject will be in focus placed at 4 to 5 feet distance.

The attachment is simply an extra lens slipped on over the regular lens 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 the Open Air

When the stop No. 3 is before 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 $\frac{1}{2}$ to 1 second will be sufficient.

WITH HEAVY CLOUDS—From 2 to 5 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.

Stops

The stops should be used as follows:

No. 1. THE LARGEST—For all ordinary instantaneous exposures.

No. 2. THE MIDDLE—For instantaneous exposures when the sunlight is unusually strong and there are no heavy shadows; such as in views on the sea shore, in extremely high, dry climates or on the water or in tropical or semi-tropical climates; also for interior time exposures.

No. 3. THE SMALLEST—For time exposures out

doors in cloudy weather. Not for instantaneous exposures. The time required for time exposures on cloudy days with smallest stop will range from $\frac{1}{2}$ second to 5 seconds according to the light. The smaller the stop the sharper the picture.

When setting the stops always see that the one to be used is brought to the center of the lens where it catches.

If you use the smallest stop for instantaneous exposures absolute failure will result.

Flash Light Pictures

By the introduction of Eastman's 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.

The cost then is: One package Eastman's Flash Sheets, No. 1, 25 cents.

With flash sheets no lamp is necessary, there is a minimum of smoke and they are far safer than any of the self-burning flash powders, 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 the time exposure, as directed on page 14 of this Manual, (except that the largest stop 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 picture.

The flash sheet should always be placed two feet behind and two to three feet to one side of the camera. If placed in front or on a line with front of camera, 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 light 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 sheets will prevent any sparks from the flash doing damage.

Taking the Picture

Having the camera 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 to the lower corner of the flash sheet. There will be a bright flash which will impress the picture on the sensitive film. Then touch the lever to close the shutter and turn a fresh film into place with the key, ready for another picture.

The Flash Sheets

The number of sheets required to light a room varies with the distance of the object farthest from the camera, and the color of the wall and hangings.

When two or more sheets are to be used they should be pinned to the cardboard, one above the other, the corners slightly overlapping.

Table

For 10 feet distance and light walls and hangings use 1 sheet.

For 10 feet distance and dark walls and hangings use 2 sheets.

For 15 feet distance and light walls and hangings use 2 sheets.

For 15 feet distance and dark walls and hangings use 3 sheets.

For 25 feet distance and light walls and hangings use 3 sheets.

For 25 feet distance and dark walls and hangings use 4 sheets.

To Make a Portrait

Place the sitter in a chair partly facing the camera (which should be at the height of an ordinary table) and turn the face slightly towards the camera.

For using the portrait attachment see page 16.

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.

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 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 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.

The finder on the camera will aid the operator in composing the groups so as to get the best effects. In order to make the image visible in the finder the room will have to be well lighted with ordinary lamp light 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's 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's Flash Cartridges

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

Closing the Camera

1. To disengage front from catch so that it may be pushed back, press down with thumb Fig. 9 on lever of focusing device (shown as A, in Fig 2, page 10).

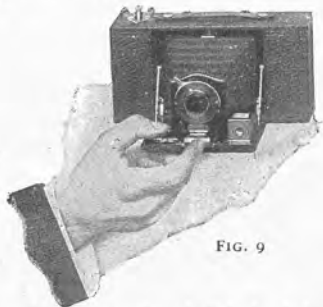


FIG. 9

2. Keep lever pressed and slide back front a short distance with forefinger Fig. 9. The lever may then be released and front pushed back into the camera box.

3. Close front by pressing down on arm locks on each side of bed as shown in Fig. 10. The bed will now close readily.

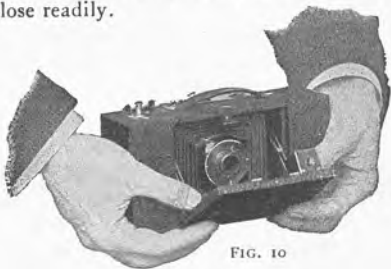


FIG. 10

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.



FIG. 1

Showing how black paper leaves reel

1. When the last film has been exposed give the key about a dozen extra turns. This covers the film with black paper again.
2. Provide an extra spool of film to fit this camera and taking a position at a table as far as possible from any window.
3. Open the back as described on page 5.

4. Pull out winding key to disengage spool and swing out brass clip containing spool. Remove stick down loose end of black paper with gummed sticks which will be found on empty spool (see Fig. 1). Now remove spool (Fig. 2).



FIG. 2

5. Now take the empty spool from the recess on the left side of camera and transfer to the winding side, placing the empty spool on the pin in the brass clip with slotted end toward the key.

6. Load as described in Part I.

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

PART IV

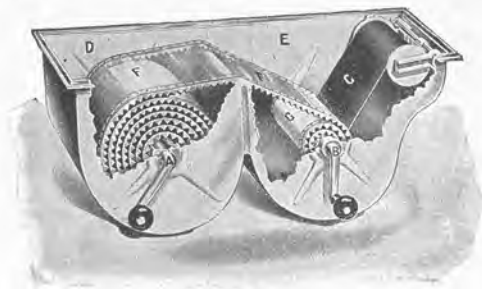
Developing with the Kodak Developing Machine

For the best results in development we advise in every case the use of a Kodak Developing Machine. There is no longer any necessity of working in improvised dark-room or waiting until evening and then developing in the dim light of a ruby lamp at the kitchen sink, with doors tightly shut and windows covered so as to shut out every ray of light. You can do your developing at any time and in any place. And more important than the ease and convenience of developing your films in this way, is the fact that you will have better results than you could get by hand development. The danger of fog and uneven development is entirely eliminated.

Much has been learned about development in the past year or two and the conclusion has been reached that once the film or plate has been placed in the developer the only control we have over the quality of the negative is the length of time that the developing agent is allowed to act upon the sensitive surface. It is also true that within the limits of excessive under and over exposure the same length of time in development gives the best results. Of course this time will vary somewhat with the strength and temperature of the developer, but it is dependent upon these conditions and not upon exposure. If the developer is of such strength and temperature that a cor-

rectly exposed film requires six minutes development, a film which has been over or under exposed will require the same length of time in the developer, if over-exposed to build up contrast, if under-exposed because longer development would bring out no more detail and would only produce too much contrast.

There are many things which may be done more perfectly by machine than by hand—developing negatives is one of them. The operation is simple.



Kodak Developing Machine

After removal from the camera the cartridge of exposed film is inserted in the Kodak Developing Machine so that the black paper will lead from the top as shown in cut, the transparent apron (F-F) having first been wound onto Arbor "A." The gummed sticker which holds down the end of black paper is then broken, the paper pulled out and the end attached to Arbor "B" by slipping under the wire guard. Arbor "B" is now turned to the right until the word "stop" appears on top of cartridge.

The end of Apron (F-F) is hooked onto Arbor "B"; the developer is poured into compartment "E," and the top put on Machine. The operator now turns handle to the right slowly and evenly until the time of development, about six minutes, has expired. The film (G) winds up inside of Apron but with the face not touching it, thus allowing free action of the developer. As the handle turns freely and easily, the operation is not at all wearisome. The cover is then removed from the machine and the developer poured off; the machine is now filled with clean water, the cover replaced and the handle given a few turns; the water is poured off and the operation repeated. This washes the developer from the film which is now removed from the machine by taking hold of either the Apron or end of the black paper and pulling out of machine, the film being taken hold of when it appears and pulled free from the black paper. The film is now placed in a tray of fixing solution while the next roll is being developed. There is no danger of fog if the film has been thoroughly washed after development as above described.

By following this method of fixing a considerable saving of time is gained as one can develop the second roll while the first is being fixed. As the black paper is not put into the fixing solution and therefore carries no developer over to it, that solution may be used repeatedly.

N. C. Film must be fixed in the tray as directed above.

"Regular" film may be fixed in the machine if desired, in which case the cover is removed and the

developer poured off, after which the fixing solution is poured in and the handle turned about six minutes when fixing will be complete.

Nothing now remains to be done except to wash the film, to free it from Hypo (fixing solution); wipe it with a soft cloth and pin it up to dry. As soon as dry the negatives are cut apart and are ready for the print making to begin.

The machine may be used again immediately. If film was fixed in the machine simply rinse well and wind the Apron back onto Arbor "A." All is now ready for the next roll of exposures.

However, the following method of development may be employed if desired.

Developing in the Dark Room

Provide an Eastman A B C Developing and Printing Outfit.



A B C Developing Outfit

The Outfit Contains :

1 Kodak Candle Lamp	\$.25
4 Developing Trays . . . . .	.40
1 4-oz. Graduate . . . . .	.10
1 4 x 5 Printing Frame . . . . .	.25
1 4 x 5 Glass for same . . . . .	.05
1 Stirring Rod . . . . .	.05
1 Box (5 tubes) Eastman's Special Developing Powders . . . . .	.25
½ Pound Kodak Acid Fixing Powder . . . . .	.15
2 Doz. Sheets 4 x 5 Solio Paper . . . . .	.25
1 2-oz. Bottle Solio Toning Solution . . . . .	.15
1 Package Bromide Potassium . . . . .	.10
1 oz. Glycerine . . . . .	.05
1 Instruction Book . . . . .	.10
	<hr/>
	\$2.15

Price complete, neatly packed, \$1.50.
This outfit cannot be shipped by mail.

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 lamp light, 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 upon 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 and with the side toward the operator.

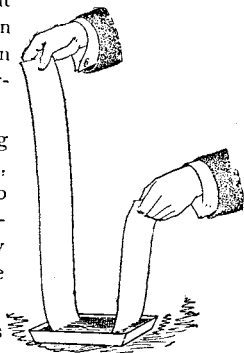
1. Fill one of the trays nearly full of water (first tray).
2. Open one of the developer powders, then put the contents (two chemicals) into graduate and fill it up to the four-ounce mark with cold water. Stir until dissolved, with the wooden stirring rod and pour into the second tray.
3. To develop film unroll the film and detach the entire strip from the black 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 may 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's N. C. 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 in the darkroom or developed in the Developing Machine.

6. After completing development cut the negatives apart with a pair of shears, transfer to the third tray and rinse two or three times with clear cold water.

Another Way

We advise the foregoing method of development. If desired, however, the negatives may be cut apart before development is commenced by the following method.

a. Unroll the film and cut the exposures apart as shown in Fig. 1.

In unrolling the film preparatory to development, care must be taken that the end be not allowed to roll up over the paper. The exposures should be cut apart with the paper on top. Do not let the fingers touch the face of the film. (The face is the dull side.)

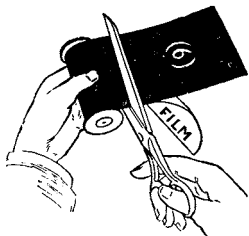


FIG. 1—Right

b. Put the exposures into the first tray one by one face down; put them in edgewise to avoid air bells and immerse them fully.

Cover the tray with a bit of brown paper to keep out the light from the lamp.

c. Take one of the exposures from the water and immerse it face down, in the tray of developer (second tray). Rock it back and forth to prevent streaks and air bubbles; in about one minute the film will begin to darken in spots, representing the lights of the picture, and in about two minutes the operator will be able to distinguish objects in the picture.

d. Transfer the developed film to the third tray and rinse two or three times with water, leaving it to soak while the next film is being developed.

Note—A dozen negatives can be developed one after the other in one portion of the developer; then it should be thrown away and a fresh portion mixed.

Only one negative should be developed at a time until the operator becomes expert then he can manage three or four in the tray at one time and the developer will answer for twenty-four films before being exhausted.

As each successive negative is developed it should be put with the preceding negatives in the washing tray and the water changed twice, to prevent the developer remaining in the films from staining them.

From this stage the treatment of negatives is the same, whether they have been developed singly or in the strip.

7. Remove the cover from the box of Acid Fixing Powder and fill the cover of the box level full of the fixing powder. Put this into the fourth tray and add eight ounces of cold water. When the Fixing Powder is

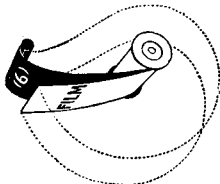


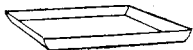
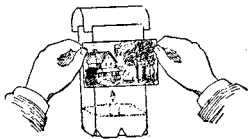
FIG. 2—Wrong

all dissolved add as much of the Acidifier, which you will find in the small box inside of the large one, as will fill the cover of the small box level full. When this is dissolved, the fixing bath as this solution is called, is ready for use.

8. Immerse the negatives one by one in the fixing bath and leave until they are entirely clear of white spots and are transparent instead of milky by transmitted light, moving them about occasionally to insure even fixing. This will require about ten minutes.

9. The dark room door may be opened as soon as all the exposures have been put into the fixing solution.

10. Pour off the fixing solution into the slop bucket, and fill the tray with clear, cold water; repeat this at intervals of five minutes, five or six times, keeping the negatives in motion, or transferring them back and forth to tray No. 3, one by one, to insure the water acting evenly upon them.



Note—With regular film a glycerine bath is necessary to prevent curling. When the negatives are thoroughly washed, put one-half ounce of glycerine into one pint of water (four portions measured with the graduate), stir well and soak the negatives in the solution for 5 minutes, then remove them and wipe off the surplus moisture with a soft, damp cloth. The glycerine solution may be used repeatedly.

The fixing solution must 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 or blackened so as to be useless.

N. C. Film negatives do not curl, therefore with them the glycerine bath is unnecessary.

The trays and graduate should now be rinsed out and set away to drain and dry.

When the negatives are dry they are ready for printing, as described in Part V.

Defective Negatives

By following closely the foregoing directions the novice can make seventy-five per cent., or upwards, of good negatives. Sometimes, however, the directions are not followed, and failures result.

To forewarn the camerist is to forearm him and we therefore describe the common causes of failure.

Under-Exposure

Caused by making snap shots indoors, or in the shade, or when the light is weak, late in the day, or by closing the lens too soon on time exposure.

Under-exposure is evidenced by slowness in the appearance of the image in development and the absence of detail in the shadows. In under-exposure the sky appears black in development, while the rest of the negative remains white with no detail.

Over-Exposure

Caused by too much light.

Negative develops evenly, shadows almost as fast as high lights. If a negative is known to be over-exposed before development is begun, it can be overcome by the addition of bromide of potassium to the developer before development begins. After the bromide has been added to the developer, it should not be used for another negative unless it is known to have been over exposed.

If care is taken to properly time the exposures the above difficulty will be avoided.

Fog

Caused by white light in the dark room, or holding the film too long in the lamplight. Even the yellow light from the lamp will fog the film after a time.

Fog causes the film to blacken all over soon after the developer is applied, and if the fog is considerable, it obliterates the image entirely.

Over-Development

Caused by leaving the negative too long in the developer.

In this case the negative is very strong and intense by transmitted light and requires a very long time to print. The remedy is obvious.

Under-Development

Caused by removal from the developer too soon.

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. If the development is carried on as before directed this defect is not liable to occur.

Drying N. C. Film Negatives

When thoroughly washed, remove the surplus water from negatives with a squeegee or soft, damp cloth. Another easy method, when negatives are developed in the strip, is to draw the strip first one side up and then the other across the smooth edge of either a porcelain or enameled bath tub, or, for that matter, across any smooth, rounding surface, such as the edge of a china wash bowl. Be sure to remove all surplus moisture and "tear drops" before hanging up to dry.

Having removed the surplus water, snap an Eastman Film Developing Clip on each end of the strip and hang it up to dry, being sure 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.

If the film has been cut up, pin by one corner to the edge of the 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.



Drying with
Clips

Spots, Streaks, Etc.

Air bells on the film in the developer or fixing bath are liable to cause spots ; and streaks are caused by allowing the film to remain uncovered in part by the various solutions while in them.

White, milky spots on Transparent Film are evidence that the negative has not been properly fixed and the negative should be put back into fixing bath and then rewashed.

Always develop film face down.

PART V

Printing on Eastman's Solio Paper

Solio Paper which we furnish with our outfits gives prints having beautiful warm, brown tones which are usually mounted on cardboard and highly burnished.

Method of Printing

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 this a piece of Solio Paper, face down.* Replace the back of the frame and secure the springs. The back is hinged to permit of uncovering part of the print at a time to inspect it without destroying its register with the negative. The operation of putting in the sensitive paper must be performed in a subdued light, that is to say, in an ordinary room as far as possible from any window. The paper not used must be kept covered in its envelope.

The printing frame, when filled as directed, is to be laid glass side up in the strongest light possible (sunlight preferred) until the light, passing through the negative into the sensitive paper, has impressed the image sufficiently upon it. The progress of the printing can be examined from time to time by removing the frame from the strong light, and opening one part of the hinged back, keeping the other part

*The paper furnished with the outfit is 4 x 5 inches. For economy's sake this should be cut into two pieces, 2½ x 4 inches, before printing.

fastened to hold the paper from shifting. The printing should be continued until the prints are little darker tint than the finished print should be.

If desired, two prints can be made at one time by fastening the corners of two negatives to the glass of the printing frame, by means of the gum stickers furnished with the outfit. The Solio paper is then put into the frame as before described but without cutting. The negatives being secured in position the prints may be examined one at a time without destroying their register with the negatives. For printing in this manner the negatives should be of equal density but if one prints faster than the other it can be stopped by inserting a piece of black or yellow paper between the print and negative. When prints are made in this way they are of course not cut apart until after they have been toned.

Place prints without previous washing in the following combined toning and fixing bath.

2-oz. Eastman's Solio Toning Solution.

4-oz. cold water.

Pour the toning solution into one of the trays and immerse the prints one after the other in the toning bath. Five or six prints can be toned together if they are kept in motion and not allowed to lie in contact. Turn the prints all face down and then face up and repeat this all the time they are toning. The prints will begin to change color almost immediately from reddish brown to reddish yellow, then brown to purple. The change will be gradual from one shade to another and the toning should be stopped when the print reaches the shade desired.

Six ounces of the diluted toning solution will tone four dozen prints, $2\frac{1}{4} \times 3\frac{1}{4}$; after that a new solution should be made the same as before.

When the proper shade has been attained in the toning bath the prints should be transferred for five minutes to the following salt solution to stop the toning.

Salt, 1 ounce: water, 32 ounces.

Then transfer the prints to the washing tray and wash one hour in running water, or in 16 changes of water.

The prints are then ready for mounting, or they can be laid out and dried between blotting papers.

Don't

Don't develop film face up.

Don't forget that the film must not be exposed to white light (daylight, lamplight, etc.), for an instant until after it has been developed and washed.

Don't try to make snap shots indoors, on shady verandas or on dark days. You will only waste your film.

Don't fail to read this Manual from cover to cover carefully. It will save you many mistakes.

Don't make snap shots with the small stop before the lens.

Don't leave the camera lying in the sun.

Don't lay the trouble to your chemicals or outfit if you do not get six perfect pictures from the first cartridge. Follow instructions carefully and you are bound to succeed.

Don't try every new developer your friends recommend. Master one before experimenting with others.

Don't put away your trays without washing.

Don't let hypo get out of its place—the fixing tray.

Price List

No. 2 Folding Brownie Camera, capacity, 6 exposures, $2\frac{1}{4} \times 3\frac{1}{4}$, not loaded,	\$5 00
Light Proof Film Cartridges, 6 exposures, $2\frac{1}{4} \times 3\frac{1}{4}$,	20
Box 4 Light Proof Film Cartridges, 6 exposures	80
Brownie Developing Machine,	2 00
Brownie Developing Machine Outfit,	75
Brownie Developing Machine Powders, per pkg. $\frac{1}{2}$ doz.,	10
Kodak Acid Fixing Powder, 1 lb. pkg.,	25
Kodak Acid Fixing Powder, $\frac{1}{2}$ lb. pkg.	15
A B C Developing and Printing Outfit, including Solio Paper and Toning Solution for 48 prints, $2\frac{1}{4} \times 3\frac{1}{4}$, (see page 30),	1 50
Solio Paper, $2\frac{1}{4} \times 3\frac{1}{4}$, per pkg., 2 doz.,	20
Eastman's W. D. Platinum, $2\frac{1}{4} \times 3\frac{1}{4}$, per doz.	15
Eastman's Sepia Paper, 2 doz, $2\frac{1}{4} \times 3\frac{1}{4}$,	15
Combined Toning and Fixing Solution, for Solio, per 8 oz. bottle,	50
Toning and Fixing Solution can be shipped by mail in 4 oz. bottles as follows: 4 oz. Toning Solution (20c extra postpaid),	30
Eastman's Dekko Paper, per doz., $2\frac{1}{4} \times 3\frac{1}{4}$,	15
Eastman's Dekko Developer Powders, per doz.	50
Do., per $\frac{1}{2}$ doz.,	25
Eastman's Pyro Developer Powders, per doz.,	50
Do., per $\frac{1}{2}$ doz.	25
Eastman's Special Developer Powders, in hermetically sealed glass tubes, per package of 5 tubes,	25

Eastman's Flash Sheets, No. 1, per package $\frac{1}{2}$ dozen,	\$ 25
Do., No. 2, per package $\frac{1}{2}$ dozen,	40
Do., No. 3, per package $\frac{1}{2}$ dozen,	60
Kodak Trimming Boards, 5 inch,	40
Transparent Trimming Gauge, for above,	20
Eastman's Embossing Boards, for prints $2\frac{1}{4}$ x $3\frac{1}{4}$ inches,	10
Eastman's Indexed Negative Album, to hold 100 $2\frac{1}{4}$ x $3\frac{1}{4}$ film negatives,	75
Mounts, Scotch Gray, Ivy Green, Carbon Black or Royal Brown, beveled edges, per doz.	10
Do., per 100,	55
Kodak Album 102, to hold 80 pictures, $2\frac{1}{4}$ x $3\frac{1}{4}$, Gray cover and leaves,	1 00
Kodak Push Pins (for pinning up film negatives while drying), per box of 6,	10
No. 2 Folding Brownie Camera Carrying Case,	75
Eastman's Kodak Dark-Room Lamp, No. 2, $\frac{5}{8}$ -inch wick,	1 00
Developing, printing and mounting, per roll, $2\frac{1}{4}$ x $3\frac{1}{4}$,	50
Developing, printing and mounting, each,	09
Developing only, each,	04
Printing and mounting only, each,	05
On orders for developing and printing less than one-half dozen, 25c extra will be charged. Unless otherwise specified all prints are furnished unmounted.	
"Picture Taking and Picture Making," a practical book for the amateur. 120 pages, cardboard covers,	50

Kodak Portrait Attachment for use with No. 2	
Folding Brownie Camera,	\$ 50
Eastman's Film Developing Clips, $3\frac{1}{4}$ inch,	
per pair,	25
Kodak Adhesive, No. 1 pkg., sufficient powder	
for making 35 ounces of paste,	10

Terms

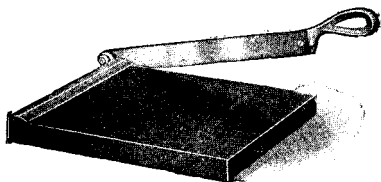
The prices in this Manual are strictly net, except to regular dealers who carry our goods in stock.

For the convenience of our customers we recommend that they make their purchases from a dealer in photographic goods, as by so doing they can save both time and express charges.

EASTMAN KODAK CO.,
ROCHESTER, N. Y.

Kodak

Trimming Boards



Made of hard wood with handsome natural finish, have fine quality steel blades and are fitted with rule.

PRICE

No. 1, capacity, 5 x 5 inches	.	.	.	\$.40
No. 2, " 7 x 7 "	.	.	.	.60

Sold by all Kodak Dealers

EASTMAN KODAK CO.

Rochester, N. Y.

Make Enlargements

From your Choice Negatives

The Kodak Enlarging Camera

Renders it a Simple Process

No Artificial Light
Needed

No. 1 Kodak Enlarging Camera for En-
largements up to $6\frac{1}{2} \times 8\frac{1}{2}$

\$15.00

This Camera may also be used for
Portraits

Ask the Dealer

Eastman's Flash Sheets

Offer the cleanest and most convenient method of making flash-light pictures.

These sheets burn more slowly than ordinary flash powders, giving a softer light and consequently a more natural expression to the eyes

For Sale by all
Dealers

Eastman Kodak Co.
Rochester, N. Y.