Instructions for using the

No. 3 B QUICK FOCUS KODAK

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EASTMAN KODAK CO.

ROCHESTER, N. Y.

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Other Specialties.

June, 1906

THE

No. 3 B QUICK FOCUS

KODAK

INSTRUCTION BOOK

Published by

EASTMAN KODAK CO.

ROCHESTER, N. Y.

BEFORE LOADING.

Before taking any pictures with the No. 3 B Quick Focus Kodak 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 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 black paper wound tightly around the film to prevent the admission of light.

EASTMAN KODAK COMPANY,

Rochester, N. Y.

CONTENTS.

PART I.

LOADING THE KODAK.

The film for the No. 3B Quick Focus Kodak is furnished in light-proof rolls 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.

THE FILM.

1. Take a position at a table as far as possible from any window; unhook the handle of Kodak and press on side springs. Fig. 1.

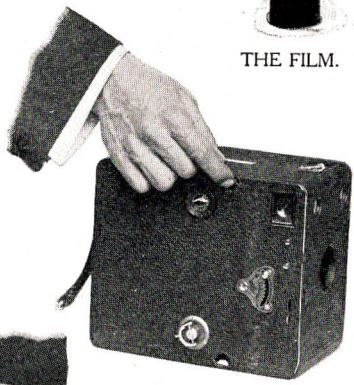


Fig. 1.

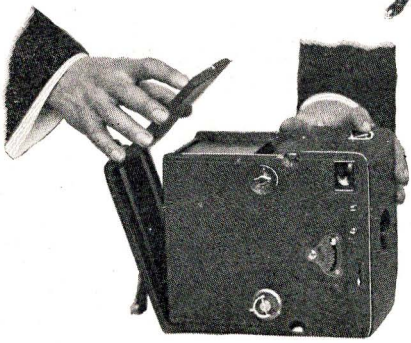


Fig. 2.

This releases the sides and back of Kodak, Fig 2, which are then removed.

Turn to right on cam levers on each side of Kodak Fig. 3, thus drawing out the center pins.

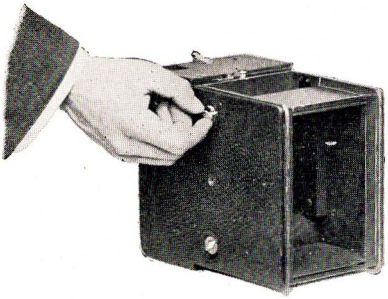


Fig. 3.

2 Put the spool of film in the recess (Fig. 4.) (The recess at the other side contains an empty spool on which the film is to be wound.) Be sure and get the "*Top*" *at the top.* Each spool is marked on the end. Turn back the cam levers. This centers the axis pins in the spool which is to revolve upon them.

3. Cut the gum slip that holds the end of paper and pass paper over the back as shown in Fig. 5.

4. Thread into the slot

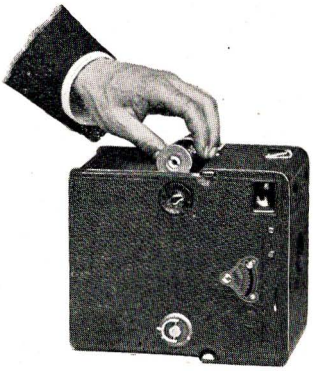


Fig. 4.

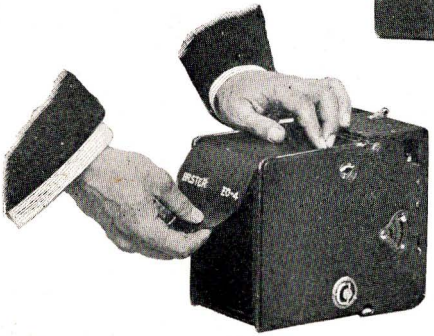


Fig. 5.

in reel, (Fig. 6,) being careful that the paper draws straight and true, and give the key two or three turns

so that the paper is taut, (Fig. 7).

5. Replace the sides of Kodak, reversing the operations shown on page 5.

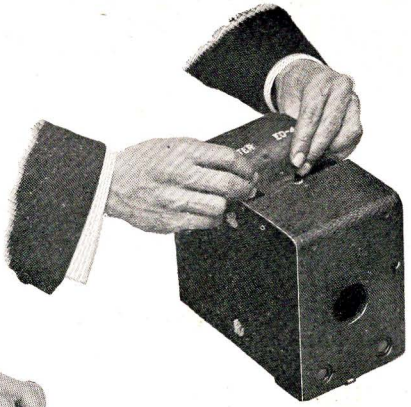


Fig. 6.

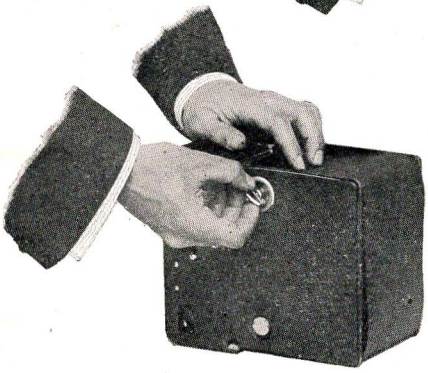


Fig. 7.

6. The roll of film in the Kodak 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 celluloid window at the back of the camera. When 15 to 18 turns have been given, the figure 1 will appear before the window. (Fig. 8.)

Fig. 8.

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

PART II.

MAKING THE EXPOSURE.

Before making the exposure with the Kodak, either time or instantaneous, be sure of four things:

First—That the shutter is set properly.
(For time or instantaneous exposures as desired.)

Second—That the proper stop is in position before the lens.

Third—That the Kodak is focused.

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

Section 1. Instantaneous Exposures.

(SNAP SHOTS.)

To take instantaneous pictures the object should be in the broad open sunlight but the Kodak should not. The sun should be behind the back or over the shoulder of the operator.

Focus on the subject.

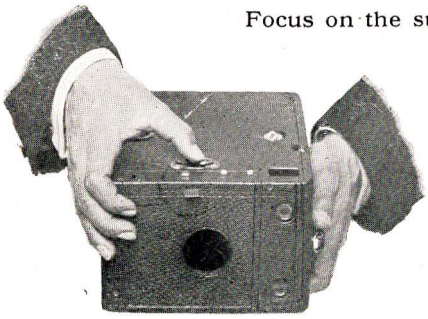


Fig. 1.

Set the focus by placing the catch (Fig. 1) on focusing scale in the notch corresponding to the distance away of the principal object to be photographed.

It is not necessary to estimate the distance with any more than approximate accuracy. For instance, if the focus is set at 25 feet, (the usual distance for ordinary street work) the sharpest part of the picture will be the objects at that

distance from the Kodak, but everything from 15 to 35 feet will be in good focus. The index plate is divided for 6, 8, 10, 12, 15, 25, 50 and 100 feet. Everything beyond 100 feet is in the 100 feet focus. Nothing nearer than 6 feet can be focused.

After setting the catch, press the concealed spring at right of scale with the thumb, (Fig. 2).

The front of camera will spring out and the camera is then in focus for the distance at which you have set the catch.

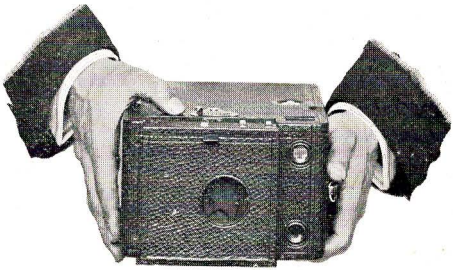


Fig. 2.

Use the Largest Stop.

Snap shots can only be made when the largest stop is in the lens. If a smaller stop be used, the light will be so much reduced that it will not sufficiently impress the image on the film and failure will result. In making snap shots both of the slides shown in Fig. 3 should be pushed down to the limit of motion. Slide A controls time and instantaneous exposures. For snap shots this slide must be down.

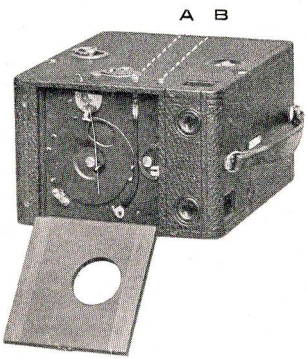


Fig. 3.

Slide B controls the stops, of which there are three. When it is clear down the

largest stop is in place. This is the one to use for all snap shots, except where the sunlight is *unusually* strong, and there are no heavy shadows, such as views on the water or in tropical or semi-tropical climates, when the middle stop may be used.

The smallest stop must never be used for snap shots or absolute failure will result.

Locate the Image.

Aim the Kodak at the object to be photographed and locate the image in the finder. There are two finders, one for horizontal and one for vertical exposures. For a horizontal picture hold the Kodak horizontally.

For a vertical exposure the Kodak must be held as shown in Fig. 4. The finders give the scope of view and show a facsimile of the picture as it will appear, but on a reduced scale.

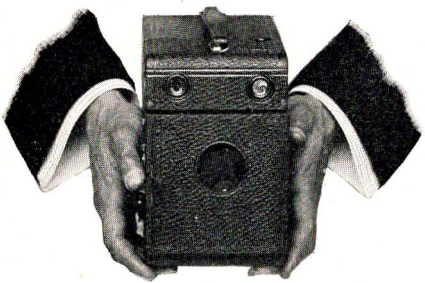


Fig. 4.

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

Hold it Level.

The Kodak must be held level.

If the operator attempts to photograph a tall building, while standing near it, by pointing the Kodak upward (thinking thereby to center it) the result will be similar to Fig. 5.

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

Fig. 5.

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

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

Push the Lever.

The shutter is always set, and is operated by pushing the spring alternately to right or left. (See Fig. 6.)

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

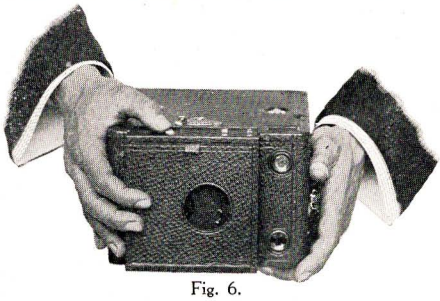


Fig. 6.

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.

Hold the Kodak Steady,
Hold it Level and
Push the Lever.

This makes the Exposure.

Turn the film into position: Three or four turns will be sufficient to accomplish this.

Repeat the foregoing operations for each picture.

Section 2.—Time Exposures Indoors.

1. Put the Kodak in Position.

The diagram shows the proper position for the Kodak. 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 Kodak.

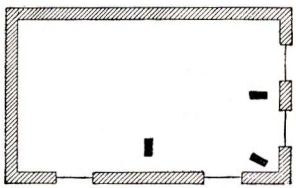


Diagram showing position of Kodak.

To make a time exposure, place the Kodak on some

Fig. 1.

firm support like a table or tripod, (Fig. 1) and pull out the time slide (A) near lever, as shown in Figure 2.

Pull out the slide B. (Fig. 2) so that either the second or third diaphragm stop will be before the lens.

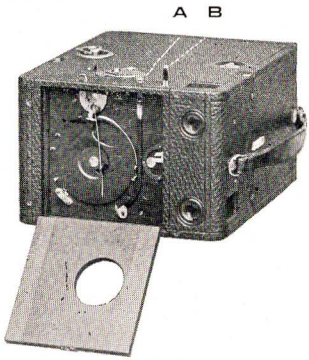


Fig. 2.

Focus as before described. Steady the Kodak with one hand and push the lever to open shutter (Fig. 1,) give the proper time, (using a watch if more than two seconds) and press the lever in the opposite direction to close shutter.

NOTE: It will be seen that when the time slide is pulled out, the shutter strikes as it passes the lens, stopping it half way across with the opening over the lens.

Try this a few times, before winding the film into position, to become accustomed to the operation.

Turn a new film into position as described before.

TIME NEEDED FOR INTERIOR EXPOSURES.

This table is for the largest stop. When the second stop is used add one-half more time ; when the smallest stop is used give four times the time of the 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.

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, 80 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 chair partly facing the light, and turn the face slightly toward the camera (which should be at the height of an ordinary table). Centre the image in the finder. For a three-quarter figure the camera should be 6 to 8 feet from the figure, and for a full figure 10 to 12 feet. The background should form a contrast with the sitter.

Kodak Portrait Attachment.

The Attachment is simply an extra lens slipped on over the regular lens and in no way affects the operation of the lens except to change the focus.

By means of the Portrait Attachment, large head and shoulders portraits of various sizes may be obtained. With the Attachment in position and the focus set at 6 feet the subject should be placed exactly 2 feet, 8 inches, from the lens.

At 8 feet focus, place the subject 3 feet from the lens.

At 15 feet focus, place the subject 3½ feet from the lens.

At 25 feet focus, place subject 4 feet from lens.

At 100 feet focus, place subject 4½ feet from lens.

TIME EXPOSURES IN THE OPEN AIR

When the smallest stop is in the lens the light admitted is so much reduced that time exposures out of doors may be made the same as interiors, but the exposure must be much shorter.

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

WITH LIGHT CLOUDS—From ½ to 1 second will be sufficient.

WITH HEAVY CLOUDS—From 1 to 5 seconds will be required.

The above is calculated for the same hours as mentioned above 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 Kodak is held in the hand. Always place it upon some firm support, such as a tripod, chair or table.

STOPS.

The stops should be used as follows:

THE LARGEST—For *all ordinary instantaneous exposures* when the sun shines.

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

THE SMALLEST—For time exposures outdoors in cloudy weather. *Never for instantaneous exposures.* The time required for time exposures on cloudy days with the smallest stop will range from 1 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.

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 No. 1 Eastman's Flash Sheets, 25c.

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 Kodak should be prepared for time exposure, as directed (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 Kodak. If placed in front, or on a line with front of Kodak, the flash would strike the lens and blur the picture. It should be placed at one side as well as behind, so as to throw a shadow and give a little relief in the lighting. The Flash Sheet should be at the same height or a little higher than the Kodak. The support upon which the flash is to be made should not project far enough in front of it to cast a shadow in front of the Kodak. An extra piece of cardboard a foot square placed under the Flash Sheet will prevent any sparks from the flash doing damage.

Taking the Picture.

Having the Kodak and the Flash Sheet both in position and all being in readiness open the Kodak 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 push 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 Kodak, and the color of the walls 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.
"	10	"	"	"	dark	"	"	"	"	2 "
"	15	"	"	"	light	"	"	"	"	2 "
"	15	"	"	"	dark	"	"	"	"	3 "
"	25	"	"	"	light	"	"	"	"	3 "
"	25	"	"	"	dark	"	"	"	"	4 "

To Make a Portrait.—Place the sitter in a chair partly facing the Kodak (which should be at the height of an ordinary table), and turn the face slightly towards the Kodak. The proper distance from the Kodak to the subject can be ascertained by looking at the image in the finder. For a three-quarter picture this will be eight feet, and for a full figure 10 feet.

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

To Make a Group.—Arrange the chairs in the form of an arc, facing the Kodak, so that each chair will be exactly the same distance from the Kodak. 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 large groups a medium light wall will be suitable.

The *finder* on the Kodak 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'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.

PART III.

REMOVING THE FILM.

No dark-room is required for changing the spools in the No. 3B Quick Focus Kodak. The operation should, however, be performed in a subdued light.

I. When the last section of film has been exposed, turn the key about 5 half turns.

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

III. Remove the sides and back from Kodak, as described in Part I.

IV. Holding the paper taut, so as to wind tightly, turn the key until the paper is all on the reel. (Fig. I.)

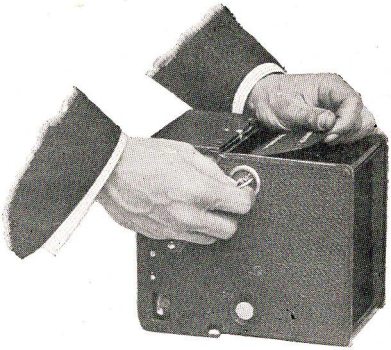


Fig. 1.

V. Hold the reel tightly with one hand to prevent the paper from loosening, and fasten down black paper by means of gummed sticker that will be found at end of roll.

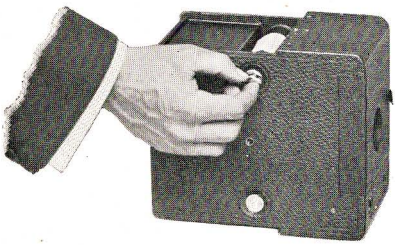


Fig. 2.

VI. Turn the little cam lever at the side of recess which contains the full spool. (Fig II.)

VII. Pull out the key, (Fig. III.) at the other side until it disengages from the

slot in spool. The spool will then drop out readily. (Fig. IV.)

VIII. Wrap up the spool of exposed film to prevent injury from exposure to strong light.

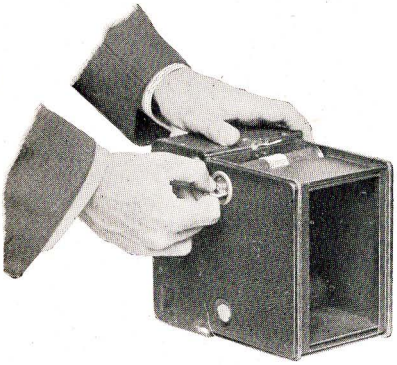


Fig. 3.

IX. Now take out the empty spool by turning the levers as before described to draw out the center pins which hold it in place.

X. Slip this spool into place at the winding side of camera (this will form the new reel) pulling out the key in so doing and making sure that the web in the key is properly seated in the slot in the end of spool. Now insert the axis pin in the opposite end of spool by turning to the left on the cam lever.

XI. Load as described in Part I.

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

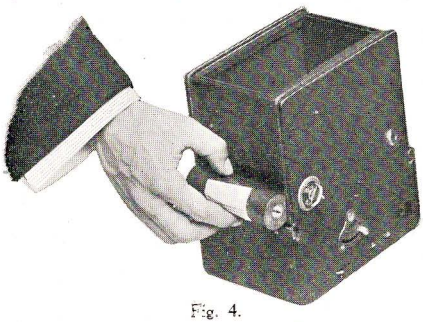


Fig. 4.

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.

Film may be developed in daylight in two ways, by the Kodak Tank Developer method or with the Kodak Developing Machine. Detailed directions for developing by either of those methods will be found in the manuals which accompany the goods. The operations are given briefly in the following pages.

We recommend the Kodak Tank Developer method particularly for its simpleness, and the uniformly good negatives which it gives.

DEVELOPING WITH THE KODAK TANK DEVELOPER.

For use with No. 3B Quick Focus Kodak provide a 5 inch Kodak Tank Developer.

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

1. Take everything out of the box. Take apron and Transferring Reel out of solution cup.

2. Insert the axles marked C and D in the cut, in the holes in front of box. The front will be toward you when the spool carrier in end of box is at your right.

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

4. Attach one end of the apron to spindle through which axle "C" passes by means of the metal hooks which are to be engaged with the lugs on the spindle. (Fig 2.) The corrugated side of the rubber bands is to be beneath the apron when it is attached. Turn to left on axle "C" and wind entire apron on to spindle, maintaining a slight tension on apron in so doing by resting one hand on it.

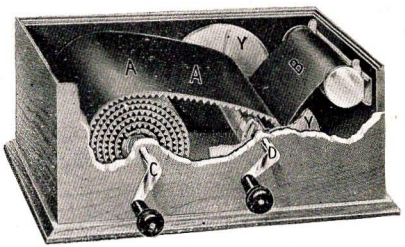


Fig. 1.

5. Insert film cartridge in spool carrier and close up the movable arm tight against end of spool. Have the black paper ("B" in Fig. 1) lead from the top.

6. Break the sticker that holds down the end of black paper, thread the paper underneath the wire guard on transferring reel through which axle "D" passes and turn axle slowly to right until the word "stop" appears on black paper.

IMPORTANT.

Film to be used in the Kodak Tank Developer must be fastened to the black paper at both ends. All films are fastened at one end at our factory. For instructions on how to fasten the other end, see Tank Developer Manual.

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

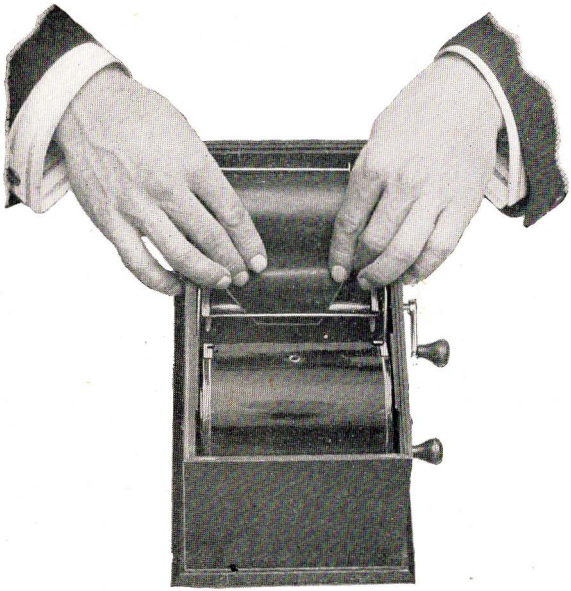


Fig. 2.

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

9. Prepare developing solution in solution cup according to directions in Kodak Tank Developer Manual.

10. Remove cover from box and draw out axle "D", holding apron and black paper with other hand to keep end of apron from loosening.

11. Remove entire Transferring Reel (now containing apron, black paper and film) which is freed by pulling out axle "D," and insert immediately in the previously prepared developer.

In removing reel do not squeeze the apron, but hold it loosely, or slip a rubber band about it, to keep from unrolling.

Using the Solution Cup.

12. Having filled Solution Cup, lower Transferring Reel into cup with end containing cross bar up. (Fig. 3.) Let reel slide down slowly. The operation of removing reel from box can be done in the light of an ordinary room, but for safety it is well that the light should not be too bright. The total length of time for development is 20 minutes. Allow development to proceed for about two minutes with cover of solution cup off; then place the cover on the cup (Fig. 4) putting lugs on cover into grooves and tighten cover down by turning it to right.

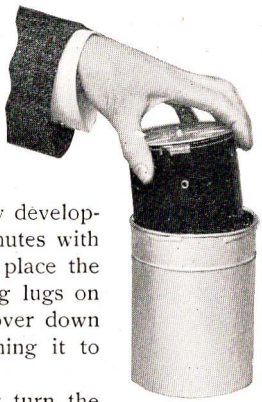


Fig. 3.

Now turn the entire cup end for end and place in a tray or saucer to catch any slight leak from the cup. After seven minutes reverse it so cover will be up, and remove cover. At fifteen minutes replace cover and again invert the cup. Turning the solution cup allows the developer to act evenly and adds brilliancy and snap to the negatives.

Fig. 4.

Whenever the cup is upright during development the cover should be removed.

13. The wire hook is to be used for lifting the reel out of the cup. Hook to the cross bar in one end of reel. When the end of reel containing cross bar is at the bottom of cup, the hook is just long enough to catch the cross bar.

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

14. When development is completed pour out developer and fill cup with clear, cold water, and pour off three times to wash the film. Then remove Transferring Reel, separate film from black paper, and place immediately in the Fixing Bath, which should be in readiness, prepared in accordance with directions on page 31.

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

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

Before developing another roll of film be sure and wipe the apron carefully.

If the Tank Developer is not to be used again immediately, the apron and tank should be washed and wiped dry.

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

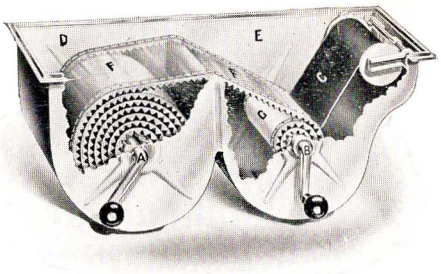
Developing Several Rolls of Film at Once.

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

DEVELOPING IN KODAK DEVELOPING MACHINE.

The Kodak Developing Machine is simple to use but the film must be kept in motion during development.

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. 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 prepared according to directions on page 31.



Kodak Developing Machine.

DEVELOPING IN DARK-ROOM.

Provide the following articles :

1 Kodak Dark-Room Lamp.
4 Developing Trays.
1 4-Ounce Graduate.
1 Stirring Rod.
1 Pkg. Eastman's Special Developer Powders.
1 Pound Kodak Acid Fixing Powder.

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.

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 Dark-Room Lamp, and light it as directed in the circular which comes in the box in which the lamp is enclosed.

The lamp gives a subdued red light which will not injure the film unless it is held too close to it. Set the lamp on the table at least eighteen inches from and with the *side* towards the operator. Never use a yellow light with N. C. film or fog will be the result.

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

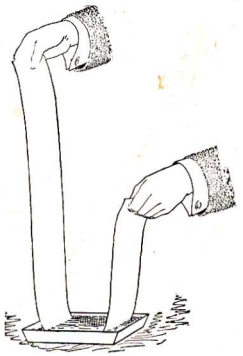
2. Open one of the developer powders, then put the contents (two chemicals) into graduate and fill it up to the 4-ounce mark with water. Stir until dissolved with the wooden stirring rod and pour into second tray.

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.

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.

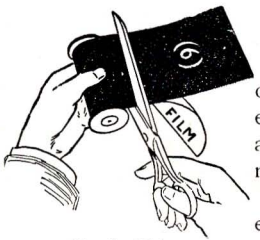


Fig. 1—Right.

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. 2 shows a cartridge unrolled with the film on top. To correct this, simply turn back the film as indicated by the dotted lines, thus bringing the film under the paper.

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.

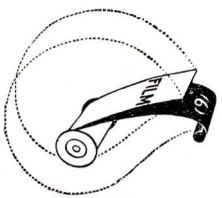


Fig. 2—Wrong.

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, or in the Kodak Tank Developer or Kodak Developing Machine.

Fixing.

Provide a box of Kodak Acid Fixing Powder and prepare a fixing bath as follows : Remove the cover from the box and pour into the cover enough of the Fixing Powder to fill the cover level full. Put this into a tray (fourth tray of an Eastman developing outfit) or wash bowl and add eight ounces of cold water. 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 will fill the cover of the small box level full. 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, 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.

N. C. 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:

Water,	16 ounces.
Hypo Sulphite of Soda,	4 ounces.
Sulphite of Soda (anhydrous),	80 grains.

When fully dissolved add the following hardener:

Powdered Alum,	⅓ ounce.
Citric Acid,	⅓ ounce.

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, as to stain the negatives.

NOTE—If you are using an Eastman 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 or blackened so as to be useless.

Washing.

Drying with Clips.

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

Drying N. C. 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 drying, N. C. Film should be cut up into strips of *not more* than six exposures in length.

If 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 a pin through the corner of film to the head, then hooking it over the string.

DEFECTIVE NEGATIVES.

By following closely the foregoing directions, the novice can make seventy-five per cent., or upwards, of good nega-

tives. 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 exposures.

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 the over exposure can be partly 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.

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.

PART V.

PRINTING ON EASTMAN'S SOLIO PAPER.

Provide :

3¼ x 5½ Solio Paper.
1 5 x 7 Printing Frame and Glass.
1 Bottle Solio Toning Solution.

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

METHOD OF PRINTING.

Open the printing frame 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 fastened to hold the paper from shifting. The printing should be continued until the print is a little darker tint than

the finished print should be. Place prints without previous washing in the following combined toning and fixing bath:

4 oz. Eastman's Solio Toning Solution.
8 ozs. *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 two dozen prints; after that a new solution should be made the same as before.

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

Salt, 1 oz.
Water, 32 ozs.

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.

*Trays provided for developing may be used also for toning.

PART VI.

MOUNTING.

The most satisfactory method for mounting prints of any size 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 the tissue being water proof protects the print from any impurities in the mount stock.

For multiple mounting and folders the tissue is ideal.

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 or a little smaller than the print by applying the point of a hot flatiron to small spots at opposite ends.

Turn the print face up and trim print and tissue to the same size. Cover 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 paste, lay the wet print face down on a sheet of glass and squeegee off all the surplus water, then brush over the back with thin starch paste, lay the print on the mount, then cover the print with a clean piece of cotton cloth and rub into contact with a soft cloth.

EASTMAN KODAK COMPANY,
Rochester, N. Y.

PRICE LIST.

No. 3 B Quick Focus Kodak, for pictures 3¼ x 5½ (not loaded),	$12 00
Black Sole Leather Carrying Case, with strap,	2 50
N. C. Film Cartridge, 10 exposures, 3¼ x 5½,	70
Do., 6 exposures,	40
Do., Double-Two Cartridge (4 exposures),	30
Kodak Tank Developer, 5 inch,	6 00
Duplicating Outfit for same,	3 00
Kodak Tank Developer Powders for 5 inch, per pkg., ½ doz.,	25
Kodak Developing Machine, Style E, for developing 10 exposures, 3¼ x 5½,	7 50
Kodak Developer Powders, for Style E Machine, per package of ½ dozen powders (each powder makes 24 ounces of developer),	25
Kodak Acid Fixing Powder, 1 pound package,	25
Do., ½ pound package,	15
Solio Paper, per package 2 dozen, 3¼ x 5½,	25
Eastman's Sepia Paper, 2 dozen, 3¼ x 5½,	20
Combined Toning and Fixing Solution for Solio, per 8 ounce bottle,	50
Do., 4 oz. bottle, (in mailing case, including post age .50),	30
Velox Paper, per dozen, 3¼ x 5½,	15
Eastman's Developer Powders, per dozen pairs,	50
Do., per ½ dozen pairs,	25
Eastman's Hydrochinon Developer Powders, per dozen (do not stain the fingers),	50
Do., per ½ dozen pairs,	25
Eastman's Pyro Developer Powders, per dozen,	50
Do., per ½ dozen pairs,	25

Eastman's Hydrochinon, Eikonogen, Pyro, Dekko and Special Developer Powders in hermetically sealed glass tubes, per box of 5 tubes,	$ 25
Bromide of Potassium, per ounce bottle,	15
Eastman's Flash Sheets, No. 1 per pkg. of ½ dozen,	25
Do., No. 2, per package of ½ dozen,	40
Do., No. 3, per package of ½ dozen,	60
Kodak Trimming Boards, No. 2; capacity, 7 x 7 in.,	60
Eastman's Indexed Negative Albums, to hold 100 3¼ x 5½ film negatives,	1 50
Eastman's Film Developing Clips, 3½ inch, per pair, (nickeled),	25
Kodak Film Clips (wooden), 3½ inch,	15
Duplex Mounts 3¼ x 5½, per 100,	65
Do., per 50,	35
Bevplane Mounts 3¼ x 5½, per 100,	90
Do., per 50,	45
Kodak Push Pins (for pinning up film negatives while drying), per box of 6,	10
Eastman's Kodak Dark-Room Lamp, No. 1, one inch wick,	1 50
Eastman's Kodak Dark-room Lamp, No. 2, ⅝ inch wick,	1 00
Developing, printing and mounting, on Velox, per roll 10 exposures,	1 50
Do., unmounted,	1 40
Developing only, each,	08

On orders for developing and printing less than one half dozen 25 cents extra will be charged. Prints are always furnished unmounted on Velox paper unless otherwise specified in order.

The Kodak Book, to hold 40 pictures, 3¼ x 5½, cloth bound, Gray covers and leaves, No. 101,	1 00
Kodak Dry Mounting Tissue, 3¼ x 5½, 2 Doz.,	10
Kodak Dry Mounting Tissue, 5 yards 20 inches wide,	75
The Modern Way in Picture Making, a most comprehensive book for the amateur, cloth bound,	1 00

"Home Portraiture," card covers, punched with round holes for tinting Solio,	$ 25
Do., leather covers,	75
11 x 14 Bromide Enlargements, mounted on card,	1 25
14 x 17 Bromide Enlargements, mounted on card,	1 50

EASTMAN KODAK CO.

Rochester, N. Y.

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