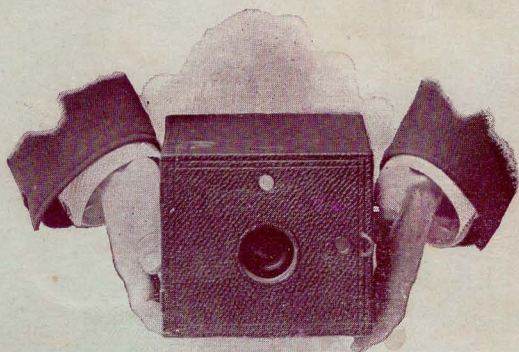


PICTURE TAKING

WITH THE      ♣      ♣

No. 4 BULLET SPECIAL KODAK.



EASTMAN KODAK CO.

ROCHESTER, N. Y.

*KODAK,*  
*Trade Mark, 1888.*

**EASTMAN KODAK COMPANY,**  
ROCHESTER, N. Y.

MANUFACTURERS OF  
Kodaks,  
Eureka Cameras,  
Cartridge Roll Holders,  
Eastman's Solio Paper,  
Western Collodion Paper,  
Eastman's Dry Plates,  
Eastman's Royal Bromide Paper,  
Eastman's Standard Bromide Paper,  
Eastman's Platino Bromide Paper,  
Eastman's Enameled Bromide Paper,  
Eastman's Matte-Enamel Bromide Paper,  
Eastman's Transparent Film,  
Eastman's Transparency Plates,  
Tripods and  
Other Specialties.

*May, 1898.*

# INSTRUCTIONS

FOR USING THE

## NO. 4 BULLET SPECIAL KODAK.



MANUFACTURED ONLY BY

EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.



## NOTICE.

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In ordering Film for this camera be sure and state that it is for No. 4 Bullet Special Cartridge Roll Holder. This Kodak has the detachable Cartridge Roll Holder and therefore requires Cartridge Roll Holder film, not Kodak film.

Owing to the difference in winding, Kodak Cartridges will not fit the Cartridge Roll Holders, and Roll Holder Cartridges will not fit the Kodaks.



## BEFORE LOADING.

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Before taking any pictures with the Bullet Special, 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 or putting a plate in position.

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 or plate in a small fraction of a second when it comes through the lens, can destroy as quickly as it makes a picture. Until they have been developed and fixed, films or plates must never be exposed to white light for even a fraction of a second, (this includes gas-light, lamplight, etc.,) or they will be ruined. In using film be careful, therefore, throughout all the operations of loading and unloading, to keep the black paper wound tightly around the film to prevent the admission of light.

EASTMAN KODAK COMPANY,

Rochester, N. Y.

## CONTENTS.

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### PART I.

Loading.

*Section 1.* Loading with Films.

*Section 2.* Loading with Plates.

### PART II.

Making the Exposures.

*Section 1.* Operating the Shutter.

*Section 2.* Instantaneous Exposures.

*Section 3.* Time Exposures Indoors.

*Section 4.* Time Exposures Outdoors.

*Section 5.* Flash Light Pictures.

### PART III.

Removing the Film from Roll Holder.

### PART IV.

Developing.

### PART V.

Printing on Solio Paper.

# PART I.

## Section 1.

### LOADING WITH FILM.

The first step in loading the No. 4 Bullet Special Kodak with film is to remove the Cartridge Roll Holder from the camera as shown in Fig. A. To accomplish this open the door in side of Kodak by means of thumb piece and release roll holder by pushing inward on the brass catches at sides, as shown in illustration. It will then come out readily.

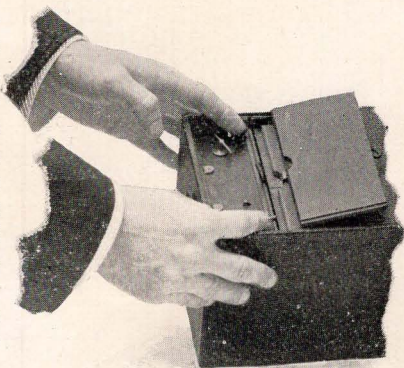


Fig. A.

The film for the Cartridge Roll Holder is furnished in light-proof rolls, and it can therefore be loaded in daylight. The operation should, however, be performed in a subdued light, not in the glare of bright sunlight.

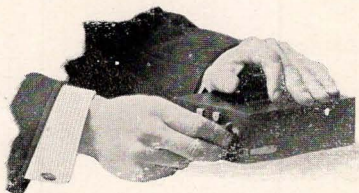


Fig. 1.

ing to the right on the key, pull it out to the limit of motion and swing it *slightly* out of perpendicular so that it will not drop back into position.

I. Having provided an Eastman light-proof film cartridge to fit this roll holder, (see page 2) take a position at a table as far as possible from any window, and turn-



II. Pul. upward on the aluminum lock, as shown in Fig. 2, and remove the carrier from its outer case, as shown in Fig. 3.

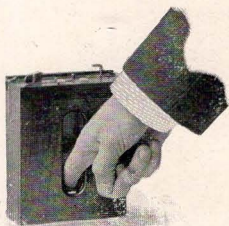


Fig. 2.

III. Throw back the brass plate at top of recess on right

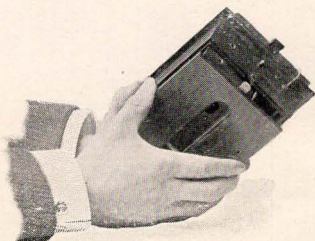


Fig. 3.

side of carrier, and insert the film cartridge in place, fitting the round hole in axis of spool onto the wooden pin at bottom

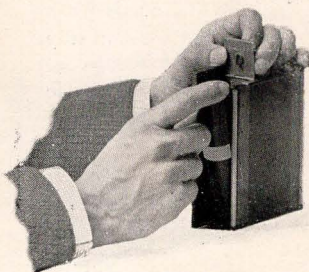


Fig. 4.

(See Fig. 4) and inserting the hub in brass tension plate in slotted end of reel. See Fig. 5.

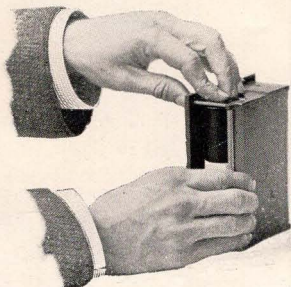


Fig. 5.

IV. Cut the gum slip that holds the end of the paper and pass the black paper across the rollers and thread into slot in reel as shown in Fig. 6.

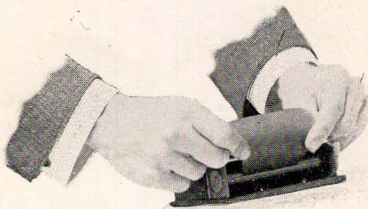


Fig. 6.

V. Press on the ratchet wheel and give one or two slight turns to the left to bind the paper firmly onto the reel, taking care that it draws straight and true, bearing meantime upon the cartridge with the fingers of the left hand to give sufficient

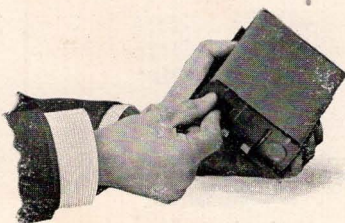


Fig. 7.

tension to make the paper draw taut. (See Fig. 7.)

VI. Re-insert the carrier in case and lock by pushing down on aluminum catch, as shown in Fig. 8.

VII. Spring key back into position and turn to the left until it is seated in place.

VIII. Now turn the key slowly to the left and watch

carefully in the little red window in the slot at back of Roll holder until the figure 1 appears. (The figures are in white upon the black paper.) About one dozen turns will accomplish this.

IX. With the left hand press the little lever at the top of Roll Holder near the key to the front to the limit of motion, *at the same time* turning to the left on key. See Fig. 9. This locks the film in position and the key will turn about one-eighth of a revolution, taking up all slack and causing the film to lie perfectly flat.

The roll holder may now be inserted in the camera by simply reversing the process given

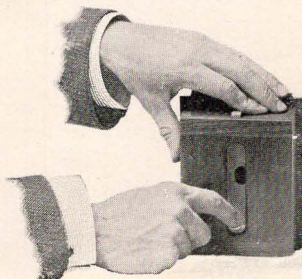


Fig. 8.

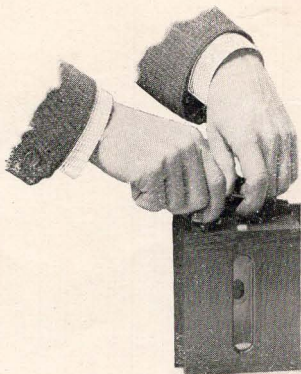


Fig. 9.

on page 5. Care should be taken, however, that the roll holder fits into place, the lip on the bottom being entered in slot at bottom of camera and the brass catches at side sprung into position. The dark slide may now be removed and the exposures made, as described in Part II. (The dark slide need not be re-inserted until it is desired to remove the roll holder from the camera.)

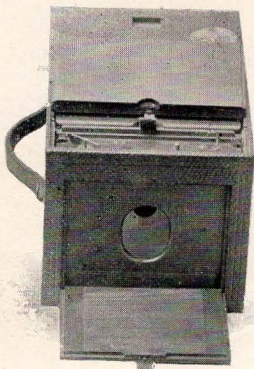


Fig. 10.

X. Having made the first exposure release the lock by pushing lever back to opposite end of slot, turn the key until figure 2 appears before the window, again lock film as described in paragraph IX.

*Repeat foregoing operations for each exposure.*

Fig. 10 shows the Kodak with both the back and top doors open and the roll holder in position. It is necessary when winding a fresh film into position to open both these doors that the key may be turned and the red celluloid window in back of roll holder watched at the same time.



## Section 2.

### LOADING WITH PLATES.

I. In using glass plates the plate holders must be loaded in a dark room—that is, a room from which all white light has been excluded as described on page 29.

#### II. Provide

No. 4 Bullet Special Kodak Double Plate Holders.

1 dozen Eastman's Extra Rapid Dry Plates, 4 x 5.

1 Eastman Orange Candle Lamp.

A shelf or table on which to work.

III. Set up the lamp as described in the directions contained in the box in which it is packed. Fig. 1.

IV. Remove the dark slides from the plate holders.



Fig. 1. The Lamp.

V. Open the box of plates by running a thin knife blade around the edge of the box.

VI. Take out one of the plates and place it in the holder, face up. (The face is the dull side.) Brush gently over the face of the plate with a camel's hair brush to remove dust.

VII. Replace the dark slide in the holder with the word "exposed" on inside. Turn the holder over and load in the same manner.

VIII. Repeat the operation until all of the plate holders have been filled, then close up the remaining plates in the box and put them away in a dark drawer or wrap up securely.

The remaining operations may be performed in daylight.

IX. Remove the roll holder from the Kodak, as described on page 5, first inserting the dark slide if it contains any film.

X. Open second section of door in side of Kodak, as shown in Fig. 2, and take out the ground glass frame.

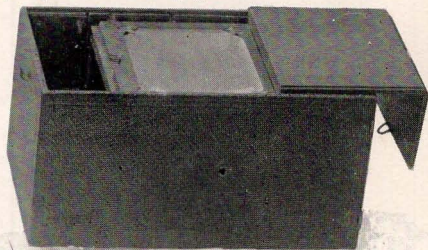


Fig. 2.

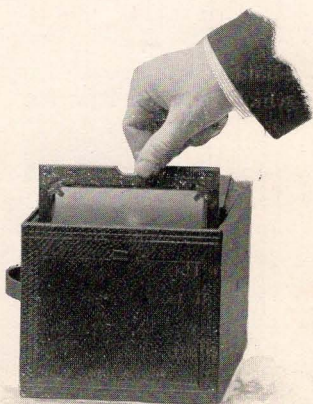


Fig. 3.

XIII. Pull out the dark slide and insert it for convenience back of the plate holder.

XIV. After making the exposures as described in Part II., re-insert the dark slide, with the word "exposed" toward the front of Kodak and remove the plate holder, springing it back a trifle to start it.

XV. Re-insert the plate holder with the opposite side to the front and proceed as before.

### PLATE HOLDERS AND ROLL HOLDER INTER-CHANGEABLE.

From the foregoing instructions it is apparent that by simply inserting the dark slide the roll holder may be taken out at any time and a plate holder inserted in its place or vice versa. The roll holder or plate holders may also be similarly removed when it is desired to focus by the ground glass. See page 14.

XI. Insert ground glass frame, as shown in Fig. 3.

XII. Insert one of the plate holders, pushing it in just ahead of the ground glass. See Fig. 4. It will go in easily and need not be forced. See that the lip on the plate holder fits down into groove in camera.

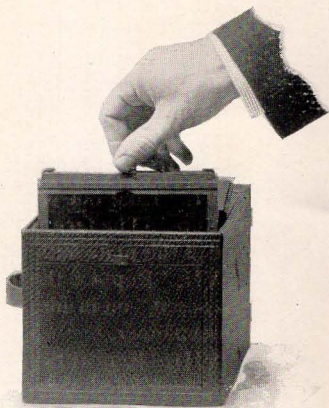


Fig. 4.

## PART II.

### MAKING THE EXPOSURES.

#### Section I.—Operating the Shutter.

Perfect familiarity with the shutter is essential to successful

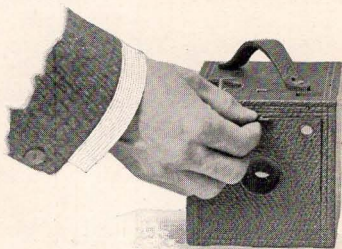


Fig. 1.

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.

Open the front of Kodak by pulling out the thumb-piece shown in Fig. 1.

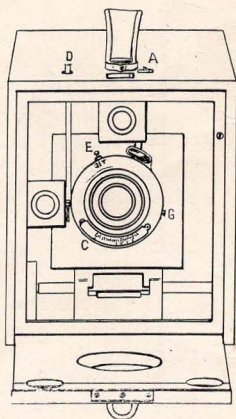
#### “SNAP SHOTS.”

For all Ordinary Instantaneous Exposures.

**First**—Set the lever E at the point “I”. See Fig. 2. This adjusts the shutter for instantaneous exposures.

**Second**—Set the lever C at No. 8. Lever C controls the iris diaphragm and No. 8 is the proper opening for ordinary instantaneous exposures. The plate is marked with Nos. 4, 8, 16, 32, 64 and 128.

**NOTE:** 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, use the diaphragm No. 16. With *light* clouds or *slightly* smoky atmosphere use No. 4. *With heavy clouds do not attempt instantaneous exposures.*





**Third**—Set the speed regulator G at the middle point of the slot in which it travels.

NOTE: For very fast work, such as horse races, moving trains, athletic sports, etc., push "G" *down* to limit of motion. This increases the speed of shutter. If the light is a trifle weak but you still wish to take some object that cannot be taken with time exposure, push lever "G" *up* to the limit of motion. This slows the shutter. *Do not infer from this that snap shots can be made in dark, cloudy weather.*

**Fourth**—Push the lever A to the left to the limit of motion. This sets the shutter.

**Fifth**—Press down the release D. *This makes the exposure.*

### TIME EXPOSURES.

**First**—Set the lever E at the point T (time). This adjusts the shutter for time exposures.

**Second**—Set the lever C at No. 16, 32 or 64. See instructions for use of stops, page 21.

**Third**—Push the lever A to the left to the limit of motion. This sets the shutter.

**Fourth**—Press release D. *This opens the shutter.* Time exposure by the watch. Again press release. *This closes the shutter.*

### "LEVER" EXPOSURE.

So-called because the exposure lever is under pressure throughout the exposure.

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

**First**—Set the lever E at the point "B". This adjusts the shutter for lever exposure.

**Second**—Set the lever C controlling the stops at No. 16, 32 or 64 as desired. See page 21.

**Third**—Push the lever A to the left to the limit of motion. This sets the shutter.

**Fourth**—Press the exposure lever D 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.

**N. B.**

Do not oil any part of the shutter.

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

## FOUR ESSENTIALS.

Before making an exposure with the No. 4 Bullet Special, either time or instantaneous, be sure of four things :

**First**—That the shutter is set properly.

(For time, "lever" or instantaneous exposures as desired.)

**Second**—That the diaphragm is set at the proper opening.

**Third**—That the Kodak is focused.

**Fourth**—That an unexposed section of the film is turned into position and the dark slide withdrawn. (Or a fresh plate is in position.)

### 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.

#### 1.—FOCUS ON THE SUBJECT.

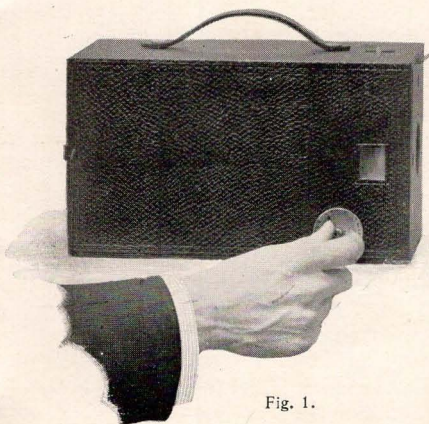


Fig. 1.

Set the focus by turning the pointed end of indicator over the figures on the index dial nearest the estimated distance of the *principal object* to be photographed in feet.

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 camera, but everything from 15 to 35 feet will be in good focus. For general street work the focus may be kept at 50 feet, but where the *principal object* is nearer or farther away, the focus should be moved accordingly. The index plate is divided for 6, 8, 10, 12, 15, 20, 25, 50 and 100 foot focus. Nothing nearer than 6 feet can be focused.



When desired the focusing may be done on the ground glass instead of by the figures on the dial. Remove the plate or roll holder (first, of course, inserting the dark slide); set the shutter open (see page 12) and turn the focusing key (Fig. 1) until the image shows sharp on the ground glass (Fig. 2.)

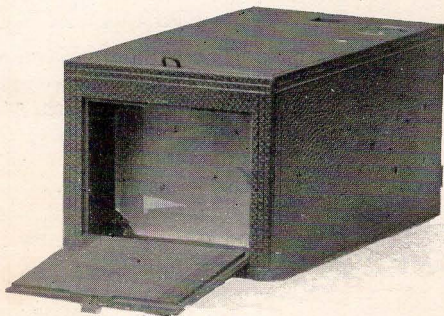


Fig. 2.

Now close the shutter, insert the roll or plate holder once more and withdraw dark slide.

## 2.—SET THE SHUTTER.

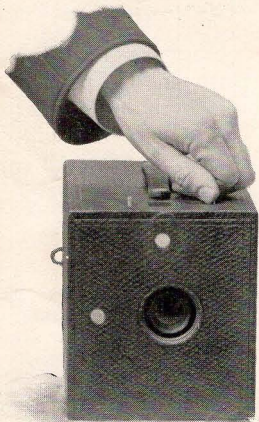


Fig. 3.

Arrange the shutter for instantaneous exposure, as shown on page 11, set the diaphragm at No. 8. 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. This is the one to use for 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 stop No. 16 may be used.

On slightly cloudy days use slow speed of shutter and stop No. 4. Do not infer from this that snap shots can be made on very dark days.

A smaller stop than No. 16 must never be used for snap shots or absolute failure will result.

Set the shutter by pushing to left on lever immediately over the lens. See Fig. 3.



### 3.—LOCATE THE IMAGE.

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.

Aim the camera 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 camera as shown in Fig. 4. (When a focusing glass is employed the image may be located on that instead of in the finder.)

Fig. 4.

For a vertical exposure the Kodak must be held as shown in Fig. 5. The finders give the scope of view and show an exact 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.

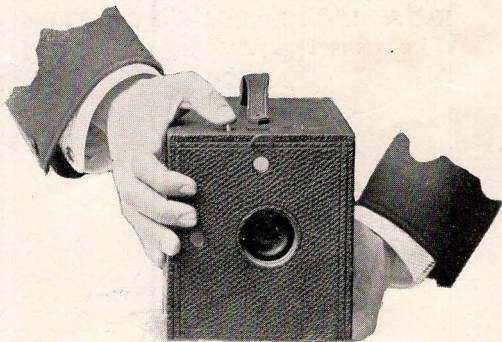


Fig. 5.

#### 4.—HOLD IT LEVEL.

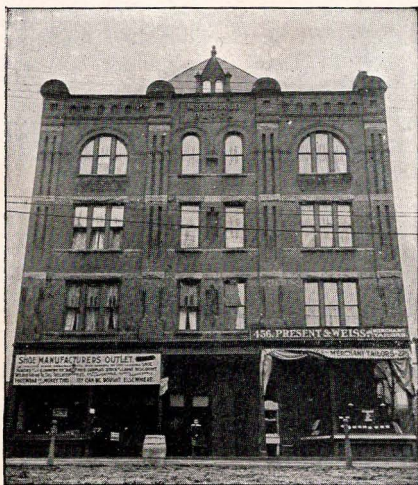


Fig. 6.

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 low down, like a small child or a dog, the Kodak should be held down level with the center of the object. See Fig. 7.



Fig. 7.

Hold the Kodak Steady, Hold it Level and Push the Lever.  
*This makes the Exposure.*

### WITH FILMS.

Turn the key slowly to the left until the next number appears before the window in the back of Kodak. Three or four turns will be sufficient to accomplish this.

Repeat the foregoing operations for each instantaneous picture.

### WITH PLATES.

If plates are used, open the door in side and re-insert the dark slide, putting it in with the word "Exposed" towards front of camera so that it will show when the plate holder is removed.

Pull out the plate holder, pushing it back a trifle to start it.

Make a memorandum on the slide of subject, time, light, etc.

Re-insert the plate holder, with opposite side to the front, and remove dark slide as before described.



## Section 2.

### Time Exposures Indoors.

First put the Kodak in position, using some firm support, like a tripod or table. Set 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 Kodak.

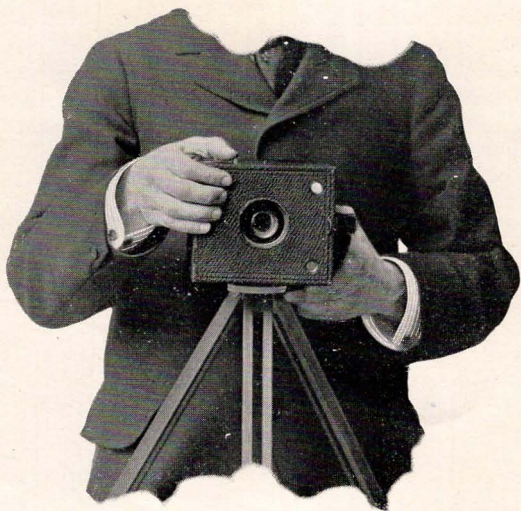


Fig. 1.

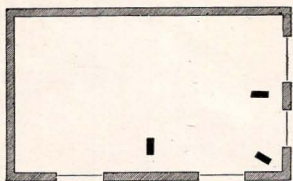


Diagram showing position of Kodak.

To make a time exposure, place the Kodak on some firm support, like a table or tripod, and set the shutter for time exposure, see page 12, focus as before described, and all being in readiness press the exposure lever to open the shutter, give

the proper time, (using a watch if more than two seconds) and again press the lever to close the shutter.

For extremely short time exposures set the shutter for "lever" exposure (see page 12). Press down on exposure lever to open shutter and release it to close shutter. The shutter is open as long as the lever remains under pressure.

Turn a new film or place a new plate in position as described before. See page 17.

### Time Needed for Interior Exposures.

This table is for No. 8 stop. When No. 16 is used, double the time ; when No. 64 is used give eight 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, 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 3 hours after sunrise until 3 hours before sunset.

If earlier or later the time required will be longer.

## TO MAKE A PORTRAIT.

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

NOTE: In making portraits the subject may be a little less than 6 feet from the camera provided a No. 64 or 128 stop is used and time given accordingly, but the pointer on the camera must be at 6 feet. As a general rule, use the No. 16 stop for portraits.



### Section 3.

## TIME EXPOSURES IN THE OPEN AIR.

When the stop No. 128 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  $\frac{1}{2}$  to 1 second will be sufficient.

WITH HEAVY CLOUDS—From 2 to 5 seconds will be required.

The above is calculated for 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.

## DIAPHRAGMS.

The stops should be used as follows :


No. 4.—For snap shots in slightly cloudy weather.

No. 8.—For *all ordinary instantaneous exposures* when the sun shines.

No. 16.—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 time for which is given in the table on pages 19 and 20.

Nos. 32 and 64.—For interiors. *Never for instantaneous exposures.*

No. 128.—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  $\frac{1}{2}$  second to 5 seconds, according to the light. The smaller the stop the sharper the picture.

This will be the result if you use a stop smaller than No. 16 for  instantaneous exposures.

## Section 4.

### FLASH LIGHT PICTURES.

The invention of the flash light apparatus renders the taking of photographs at night easy, with such a camera as the Bullet.

The requisites are

The Kodak,	- - - -	
Actino Flash Lamp,	- - -	\$1.25
Bottle Actino Powder,	- - -	.60
		<hr/>
		\$1.85

The flash light apparatus consists of a specially constructed alcohol lamp, having in front of it a little tray upon which is poured about a teaspoonful of flash light powder. A rubber tube attached to a blow pipe in the flame of the lamp conveys a blast of air from a bulb held in the hand and serves to project the powder into the flame of the lamp when it is desired to take a picture. As soon as the powder touches the flame it flashes up an intense white light, sufficiently strong to make a picture instantaneously.

Many interiors can be taken with the flash light 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.

Pictures are taken so quickly that groups of people around a dinner table or card table can be taken as clear and sharp as if they were in the open sunlight. This enables the photographer to obtain souvenirs of many occasions which have hitherto been quite beyond the range of the art.

PHOTOGRAPHING A ROOM.—The Kodak should be prepared for time exposure, as directed on page 18 of this Manual, and placed on some level support where it will take in the view of the room desired.

PREPARATIONS OF THE FLASH LIGHT.—The light should *always* be placed two feet behind and two to three feet to one side of the Kodak. If placed in front of or on a line with the



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 lighting. The lamp should be at the same height or a little higher than the camera. The support upon which the lamp is placed should not project far enough in front of it to cast a shadow in front of the Kodak. A piece of cardboard a foot square placed under the lamp will prevent any sparks from the flash doing damage. A sheet of white cardboard set up behind the flash lamp will act as a reflector and increase the strength of the picture.

### TAKING THE PICTURE.

Having the Kodak and lamp both in position, load and light the lamp according to the directions furnished with it, pouring upon the tray one teaspoonful of the powder; then set the shutter open (use the No. 8 stop) stand at arm's length and press the bulb. There will be a bright flash which will instantly impress the picture on the sensitive film. Then press the button to close the shutter and turn a fresh film into place with the key, ready for another picture.

### THE POWDER.

The amount of powder required to light a room varies with the distance of the object farthest from the camera, and the color of the walls and hangings. When more than one teaspoonful is to be used all the powder should be poured in one pile on the tray.

#### Table.

For 10 feet distance and light walls and hangings use 1 even teaspoonful											
"	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 camera (which should be at the height of an ordinary table) and turn the face slightly toward the camera. The



proper distance from the camera to the subject can be ascertained by looking at the image in the finder. For a bust picture this will be 5 to 7 feet; for a three-quarter picture, 7 to 9 feet, and for a full figure, 9 to 12 feet.

The lamp should be on the side of the camera away from the face, that is, the sitter should not face the lamp. The lamp should not be placed 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. In case any of the subjects are seated on the floor the limbs should be drawn up close to the body and not extended toward the camera.

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 to compose 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.

## PART II.

### REMOVING THE FILM.

No dark room is required in changing the spools in Cartridge Roll Holder. The operation should, however, be performed in a subdued light.

I. When the last film (No. 12) has been exposed, turn the key until it will turn no further or about 15 half turns to the left and remove the roll holder from camera, as before described.

II. Provide an extra spool of No. 4 Horizontal Cartridge Roll Holder (4 in.) Film to fit this roll holder and take a position at a table as far as possible from any window.

III. Open the Roll Holder, as before described.

IV. With a knife cut the black paper where it is attached to the now empty spool, as shown in Fig. 1, holding the paper tightly with the left hand in so doing, that it may not loosen on the reel and fog the film.



Fig. 1.

NOTE: In passing from the spool to the reel the paper is reversed, being rolled on the reel in exactly the opposite way from which it is rolled on the original cartridge with the result that it has a tendency if left without tension to unroll and expose the film to light. *It must therefore be kept tightly wound on the spool throughout the operation of unloading or the film will be ruined.*

V. Holding the black paper taut with the left hand, bear on the ratchet wheel with the thumb and first finger of the right hand and turn to the left (see Fig. 2) until the paper is all on the reel and fasten it securely by moistening the gummed end and sticking it down.

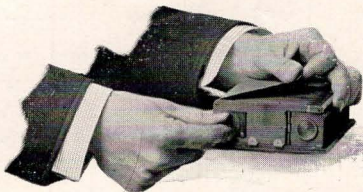


Fig. 2.

VI. Throw back the brass tension plate as shown in Fig. 3 and take out the exposed roll, snapping a rubber band about it to hold the paper securely and wrap up immediately to prevent damage from light.

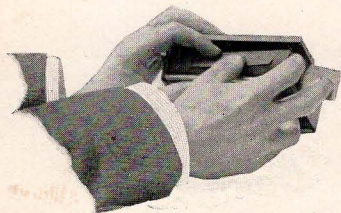


Fig. 3.

VII. Now take out the empty spool, as shown in Fig. 4, and transfer it to the recess at winding side, fitting the slotted end of spool into the hub in tension plate, as shown in Fig. 5. Swing the spool into the recess and fit into position. This forms the new reel and the holder may be loaded as described in Part I., page 5.

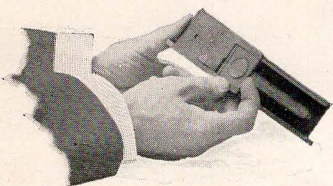


Fig. 4.

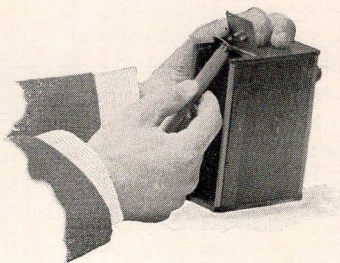


Fig. 5.

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

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

### IN GENERAL.

We recommend every one to do their own developing. With our outfits it is very simple and inexpensive, no regular dark room is required, and the operator can obtain proofs from the negatives as soon as they are dry.

If, however, the amateur prefers to have us "Do the rest," he can send his exposures to us by mail.



We have larger and better facilities for developing and printing and more skilled operators than anyone else, and it is to our interest to get the *best results from every negative*.

### **IN ORDERING**

***Film for this camera specify "Four inch Roll Holder Cartridge for No. 4 Bullet Special." The ordinary No. 4 Bullet and Bulls-Eye cartridges cannot be used in this camera.***

## PART IV.

### DEVELOPING.

Provide an Eastman's A B C Developing and Printing Outfit.



#### THE OUTFIT CONTAINS:

1 Eastman Candle Lamp, -	\$.25	1/2 Pound Hyposulphite Soda, \$	.07
4 Developing Trays, - -	.40	2 Dozen Sheets 4 x 5 Solio	
1 Glass Beaker, - - -	.12	Paper, - - -	.30
1 4 x 5 Printing Frame, -	.25	1 2-oz. Bottle Solio Toning	
1 4 x 5 Glass for same, -	.05	Solution, - - -	.15
1 Stirring Rod, - - -	.05	1 Package Bromide Potassium,	.10
1/2 Dozen Developer Powders,	.25	1 Ounce Glycerine, - -	.05
			\$2.04

**\*Price, complete, neatly packed, \$1.50.**

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

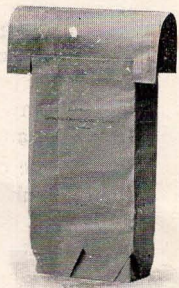
\*This outfit cannot be shipped by mail.

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 :

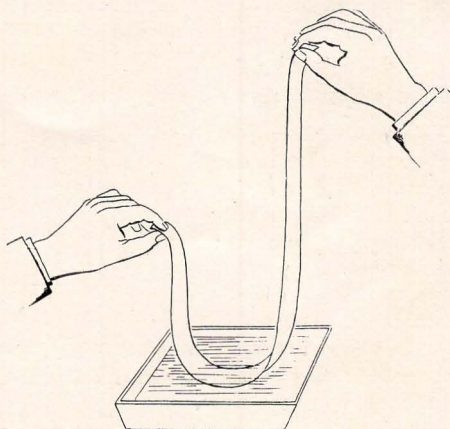
I. Set up on the table or shelf the Orange Candle Lamp, and light it as directed in the circular which comes in the box in which the lamp is enclosed.

The lamp gives a subdued yellow or orange 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.



The Lamp.

II. Unroll the black paper and detach the film from it.





III. Cut the strip of film apart at point where perforations occur in the middle. The object of this is so that it may be the more readily handled.

IV. Fill one of the trays with water and pass each of the two strips of film through it, face down (the face is the dull side) 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 thoroughly wet, with no air bubbles, place the strips of film in the tray of water, immersing fully but not folding tightly so as to crack.

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

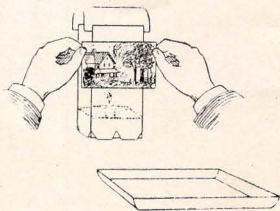
V. Open one of the developer powders and put the contents (two chemicals) into the beaker and fill it up to the ring with water. Stir until dissolved with the wooden stirring rod and pour into second tray.

VI. 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.

VII. With a pair of shears cut the negatives apart and place them face down, in the tray of *clear water*. They may now be developed one at a time.

**To avoid curling, always develop film face down.**

VIII. Take one of the exposures from the water and immerse it in the developer *face down*. Rock it back and forth to prevent streaks and air bubbles; in about 1 minute the operator will be able to distinguish objects in the picture. The developer should be allowed to act 5 to 10 minutes. The progress of the development may be watched by holding the negative, from time to time, up to the light.



IX. 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: Eight or ten  $4 \times 5$  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  $4 \times 5$  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.

X. Put two tablespoonfuls of Hyposulphite of Soda into the fourth tray, fill two-thirds full of water, and stir until dissolved. This is called the fixing bath.

XI. Immerse the negatives one by one in the fixing bath until they are entirely clear of white spots and are transparent instead of milky by transmitted light. This will require about 10 minutes.

XII. The yellow shade can be removed from the lamp as soon as all the exposures have been fixed.

XIII. 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 ensure the water acting evenly upon them.

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.

XIV. When the negatives are thoroughly washed, put one-half ounce of glycerine into one pint of water (four portions measured with the developer glass), 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, and pin them by the four corners, face up, to a flat surface to dry.

The glycerine solution may be used repeatedly.

The trays and beaker 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 IV.

## 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 amateur 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-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.

### 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 are evidence that the negative has not been properly fixed, and the negative should be put back into the fixing bath, and then rewashed.

### DEVELOPING DRY PLATES.

The foregoing directions apply to dry plates as well as films, the chemical treatment being the same, except that the preliminary wetting, and the soaking in glycerine may be omitted with plates.

Plates, however, must be handled in the solutions one at a time as they would scratch each other if a larger number were put into the trays simultaneously. It needs no suggestion that plates should be stood on edge to dry, not pinned up by the corners.

## PART V.

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### PRINTING ON EASTMAN'S SOLIO PAPER.

Having found that amateurs can easily handle our Solio Paper we have now substituted it for the Ferro-Prussiate Paper, which we formerly furnished with the A B C outfits as it makes far handsomer pictures than the blue prints.

Solio prints have a warm, brown tone and 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-half of the hinged back, keeping the other half fastened to hold the paper from shifting. The printing should be continued until the print is a little darker tint than the finished photograph should be. 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 gets the shade desired.

Six ounces toning solution will tone two dozen prints ; after that a new solution should be made 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 oz.

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.

EASTMAN KODAK COMPANY,

Rochester, N. Y.

EASTMAN PHOTOGRAPHIC MATERIALS CO., LTD.

43 Clerkenwell Road,  
LONDON.

EASTMAN KODAK SOCIÉTÉ ANONYME FRANÇAISE.

Ave. de l'Opera 5,  
PARIS.

EASTMAN KODAK GESELLSCHAFT, M. B. H.

Markgrafen Strasse 91,  
BERLIN.



## PRICE LIST.

No. 4 Bullet Special Kodak, for film or plates, including Cartridge Roll Holder, and one Double Plate Holder, Rapid Rectilinear lens, Eastman shutter, iris diaphragm stops (not loaded),	\$25 00
Do., with one Double Plate Holder, but without Roll Holder,	20 00
Cartridge Roll Holder for No. 4 Bullet Special,	5 00
4-inch Light-proof Roll Holder Cartridge, 12 exposures 4 x 5, ( <i>Specify for Cartridge Roll-Holder</i> )	90
Double Plate Holders, 4 x 5 inches, ea h,	1 00
Black Sole Leather Carrying Case for Kodak,	2 25
Staff Tripod,	1 50
Bulls-Eye Tripod (folds in two sections),	2 00
Feather Tripod (folds in four sections),	4 00
Eastman's glass dry plates, per dozen, 4 x 5,	65
Leather carrying case for 3 double plate holders,	1 00
Do., for 6 double plate holders,	1 50
Focusing glass,	50
A B C Developing and Printing Outfit, including Solio Paper and Toning Solution for 24 prints (see page 28),	1 50
Solio paper, 4 x 5, per dozen,	15
Solio seconds, 4 x 5, per hundred,	50
Combined Toning and Fixing Solution for Solio, per 8 ounce bottle,	50
Toning and Fixing Solution can be shipped by mail in 4 ounce bottles as follows: 4 ounces Toning Solution, ( <i>20c. extra postpaid.</i> )	25
Eastman's Hydrochinon Developer Powders, per dozen,	50
Mounts, white or Queen's gray, embossed, per dozen,	20
Do., per 100,	1 30

Eastman's negative pins (for pinning up film negatives while drying), per box of 25,	- - -	50
Eastman's Indexed Negative Albums, to hold 100 4 x 5 film negatives,	- - - - -	1 00
Hypsulphite Soda, pulverized, per pound,	- -	10
Bromide Potassium, per ounce bottle,	- - -	15
Eastman's Improved Orange Candle Lamp,	- -	25
No. 1 Kodak Dark Room Lamp, one inch wick,	-	1 50
No. 2 Kodak Dark Room Lamp, $\frac{5}{8}$ inch wick,	- -	1 00
Developing, Printing and Mounting only, each,	-	15
Developing only, each,	- - - - -	08
Printing and Mounting only, each,	- - - -	10

On orders for developing and printing less than one dozen, 25 cents extra will be charged.

### EASTMAN'S KODAK ALBUMS.

For pasting in prints. To hold 104 pictures, 4 x 5. Detachable leaves.

Style A, cloth bound.	- - - - -	\$ 2 00
Style B, half Morocco, gilt edges,	- - - -	2 50
Style C, full Morocco, gilt edges,	- - - - -	3 50

### EASTMAN'S SQUEEGEE ALBUMS.

These albums are for unmounted prints and are provided with openings in which the prints can be inserted. To hold 50 pictures, 4 x 5.

Style A, cloth bound,	- - - - -	\$ 1 25
Style B, half Morocco,	- - - - -	1 50
Style C, full Morocco, padded, gold edges,	- -	4 00

## ENLARGEMENTS.

Every amateur has among his negatives some that are well worth enlarging and framing. Our enlarging department contains only skilled operators and we secure the very best results possible from every negative. Where the kind of paper is not specified we will make the enlargements upon the paper which, in our judgment, is best suited to the negative and the subject.

### Price List.

Royal Bromide, Standard Bromide, Platino-Bromide, Enamelled Bromide or Matte-Enamel Bromide enlargements from any size negatives, mounted on cardboard :

	Each.	Per Dozen.
4¼ x 6½, each, - - - - -	\$ 35	\$ 3 00
6½ x 8½, each, - - - - -	50	5 00
8 x 10, each, - - - - -	75	—
10 x 12, each, - - - - -	1 00	—
11 x 14, each, - - - - -	1 25	—
14 x 17, each, - - - - -	1 50	—
Larger sizes in proportion.		
Lantern Slides, each, - - - - -	50	5 00

### TERMS.

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

All prices are f. o. b. at Rochester. We make no charge for packing.

For the convenience of our customers we recommend that they make their purchases from a dealer in photographic goods as by doing so they can save both time and express charges. Where orders are sent direct, remittances must be by New York draft, express order, postal order or currency (if currency, letter must be registered). Amounts less than one dollar may be remitted in postage stamps. We do not accept personal checks.

EASTMAN KODAK COMPANY,

Rochester, N. Y.



# EASTMAN'S FEATHER TRIPOD.

Length, folded, 14½ inches. Length, extended, 52½ inches.

Suitable for any 4 x 5 camera or smaller.

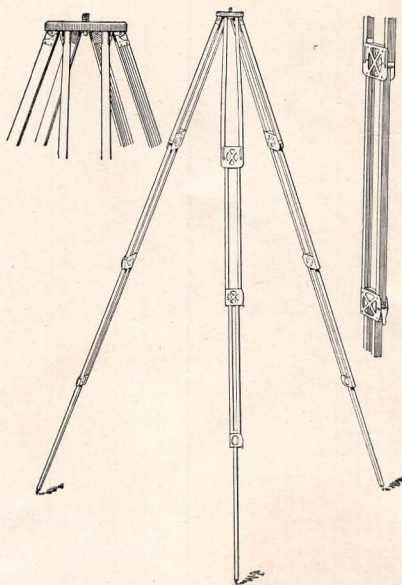
Wonderfully light, compact and strong, this tripod is especially designed for the tourist or cycling Kodaker. Only 14½ inches in length when closed, it can be readily strapped to the bicycle handle bar, whether carried in a case or not. An aluminum top plate with milled edges, holds the socket screw securely in place and seats it in place in the camera when turned—thus doing away with the nuisance of the ordinary screw, turned by means of a key handle inconveniently located

under the plate between the tripod legs, and always likely to be missing when most wanted.



HAND CARRYING CASE.

The Feather tripod folds in four sections, has brass fittings, except the top plate, which is of aluminum, and weighs, in spruce, but 17½ ounces, in cherry or in mahogany finish, 20½ ounces.



## PRICE.

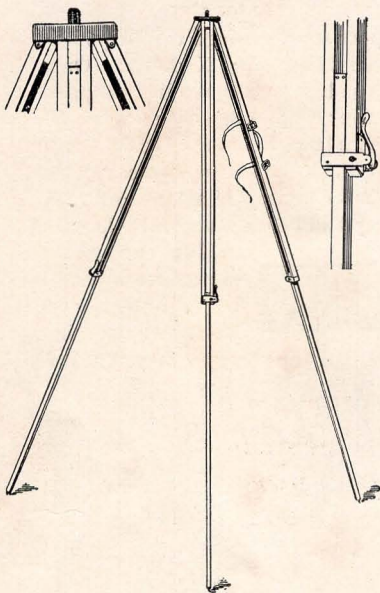
Eastman's Feather  
Tripod, Cherry, \$4 00

Eastman's Feather  
Tripod, Spruce, 4 00

Eastman's Feather  
Tripod, Mahog-  
any finish. - 4 50

Black Sole Leather  
Hand Carrying  
Case, - - 1 50

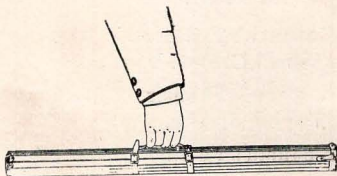
EASTMAN KODAK CO., Rochester, N. Y.



## THE BULLS-EYE TRIPOD.

A compact and convenient tripod for use with any camera up to and including 4x5. A brass top plate with milled edges holds the socket screw securely and seats it in place in the camera when turned—thus doing away with the nuisance of the ordinary screw, turned by means of a key handle inconveniently located under the plate between the tripod legs, and always likely to be missing when most wanted.

The Bulls-Eye Tripod folds in two sections and is provided with a leather handstrap for carrying. Made of the best seasoned spruce with brass fittings. Price, - - \$2.00.



**EASTMAN KODAK CO.**

**Rochester, N. Y.**

There is no Kodak but  
the Eastman Kodak