

The

Kodak

Manual

ORDINARY

KODAK.
Trademark, 1888.
Copyrighted by
THE EASTMAN COMPANY,
Rochester, N. Y.,
1891.

THE *KODAK*

MANUAL

FOR THE A ORDINARY KODAK.

DECEMBER, 1891.

CONTENTS.

+ + +

PART I. Making the Exposures.

PART II. Reloading the Kodak.

PART III. Developing the Negatives.

PART IV. Printing the Pictures.

PART I.

MAKING THE EXPOSURES.

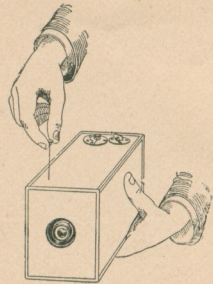
EVERY Kodak is tested in actual use and adjusted until it is in perfect working condition. It is then ready for loading. To insure its reaching the purchaser in the same condition that it leaves the factory it is wrapped and sealed. The seal should be broken only by the purchaser.

MAKING SNAP SHOTS.

Snap shots can be made only when the bright sun shines directly on the object; the camera may be in the shade but the *object* should not. The sun should never shine on the front of the Kodak while taking a picture; it should be behind the kodaker.

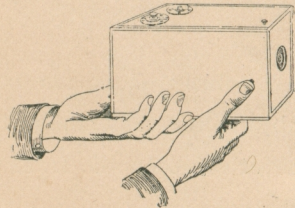
1. SET THE SHUTTER.

Pull the cord until two clicks are heard; pull it *hard* as far as it will go and do not slack the cord until the two clicks are heard; *if stopped at one click, the lens will be left wide open and the picture spoiled.*



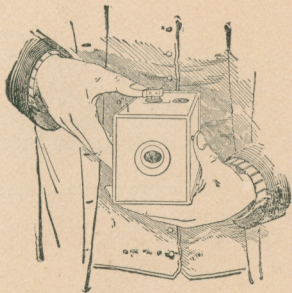
2. POINT THE KODAK.

The diverging lines show the scope of the view.
Hold it on its side for horizontal views.

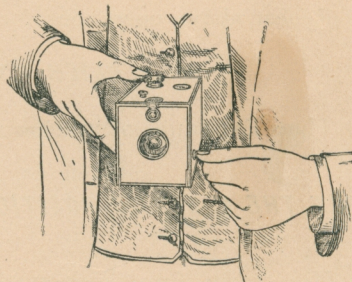


3. PRESS THE BUTTON.

Press it firmly and do not let the Kodak waver.



Right way.



Wrong way.

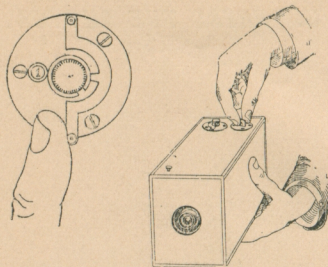
4. REGISTER EXPOSURE.

Press the register lever to the right.

5. TURN FILM INTO POSITION.

Turn the key to the right as far as it will go; turn it firmly until it stops.

Repeat above operations for every picture.



TIME EXPOSURES INDOORS.

Time Exposures should be made only when the light is dull, or indoors.

1. PUT THE KODAK IN POSITION.

Use some firm support, like a windowsill, mantel or table. Set it in such a position that the diverging lines will embrace the view desired.

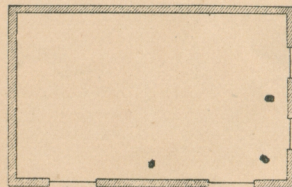


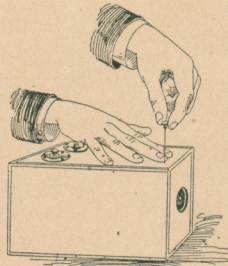
Diagram showing position of Kodak.

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 shade of such as come within the range of the Kodak.

2. SET THE SHUTTER OPEN

By pulling the cord until *one click* is heard. Keep the camera steady with the other hand, while pulling the cord.

The proper time to leave the shutter open depends upon the character of the subject and the strength of the light.



For interiors, the following table is a good guide:

TIME NEEDED FOR INTERIOR EXPOSURES.

White walls, and more than one window:

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

White walls, and only one window:

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

Medium-colored walls and hangings, and more than one window:

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

Medium-colored walls and hangings, and only one window:

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

Dark-colored walls and hangings, and more than one window:

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

Dark-colored walls and hangings, and only one window:

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

The foregoing is calculated for rooms whose windows get the direct light

from the sky, and for hours from three hours after sunrise to three hours before sunset.

If earlier or later, the time required will be longer.

3. PRESS THE BUTTON.

Hold the camera steady while pressing the button.

4. PUSH REGISTER LEVER.


5. TURN KEY.

Repeat for each picture.

TIME EXPOSURES OUTDOORS.

When the light is very dull or the light weak, time exposures can be made outdoors. The time of exposure varies greatly from one-half a second under a porch to 5 or 10 seconds under thick trees in the middle of the day. No exact

directions can be given but a little experience will teach the kodaker the proper time of exposure for various subjects.

 When *any number* of exposures have been made they can be removed and developed as described in parts II. and III.

We recommend everyone to do their own developing. With our A B C outfit 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 user of the Kodak prefers to have us "do the rest," he can send his Exposures to us either in the camera by Express, or take them out and send them by mail, as directed in part II.

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

PART II.

RE-LOADING THE KODAK.

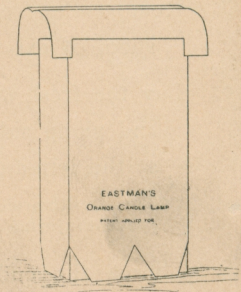
Provide

- a.* A spool of Film to fit this Kodak.
- b.* An Eastman Orange Candle Lamp.
- c.* 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, while being removed from the Kodak.

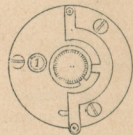
Having provided such a room or closet where, when the door is closed, no ray of light can be seen, set up on the table or shelf the Orange Candle lamp, and light it as directed in the circular which comes in the box in which the lamp is enclosed.

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.

1. Release the perforator by pressing the lever to one side, this prevents tearing the film when it is being changed.



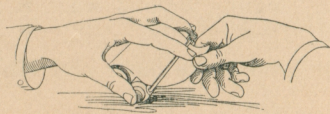
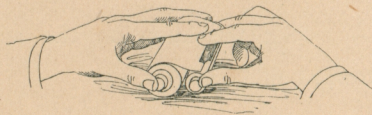
2. Remove the outer and inner lids from the back of the Kodak and lift out the spools.

3. Remove the fresh spool from its box and wrapper and use them to enclose the spool of exposures taken from the Kodak.
4. Lay the fresh spool on the table with a bit of clean cloth or paper under it, and along side it lay the empty spool taken from the Kodak ; the full spool at the left and the slotted ends of both away from the operator.

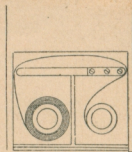
The sensitive side of the film is wound outside on the fresh spool. It must be *handled carefully* to prevent injuring it. Moist fingers should be avoided.

5. Loosen the end of the film from the fresh spool and draw it under and over the empty spool, and gum the end down with one of the gummed strips taken from the box of the fresh spool. Allow the gummed strip to dry for a minute or so, then,

NOTE.—If it is not desired to make use of the gummed strip for fastening the end of the film to the empty spool, use can be made of the spool removed from the camera with the exposures. In this case the exposures must be unrolled from the spool before they are wrapped up. This spool has a clamp on it and the drawing below shows how the end of the film is put under it.



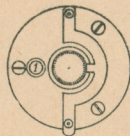
6. Replace the spools in the camera, slotted ends down, the full spool at the left and the film passing over the exposing board, to the empty spool at the right, then,



7. Replace and screw down the lids.

If the film unwinds while placing it in the camera, the slack can be taken up by turning the milled head of the register *backward*.

8. Turn the key until the film is taut.
9. Set the register by pushing the lever and turning the milled head back and forth about $\frac{1}{4}$ of a revolution until the indicator shows the figure one.



The Kodak is now ready for use again.

The spool of exposures tightly wrapped in its box can now be sent by mail to The Eastman Company for development, but the kodaker is strongly advised to learn to develop his own negatives as described in Part III.

PART III.

DEVELOPING.

Provide an Eastman's *A B C Developing and Printing Outfit*, which contains;

- 1 Eastman's Candle Lamp,
- 4 Developing Trays,
- 1 Glass beaker,
- 1 4 x 5 Printing Frame,
- 1 4 x 5 Glass for same,
- 1 Stirring Rod,
- ½ Dozen Developing Powders,
- ½ Lb. Hyposulphite Soda,
- 2 Dozen Sheets 4 x 5 Ferro-Prussiate Paper.
- 1 Package of Bromide of Potassium.
- 1 Ounce Glycerine.

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, while being removed from the Kodak.

Having provided such a room or closet where, when the door is closed, no ray of light can be seen,

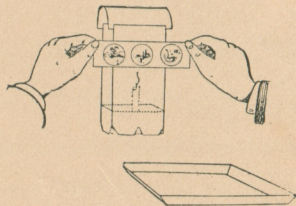
1. Set up on the table or shelf the Orange Candle lamp, and light it as directed in the circular which comes in the box in which the lamp is enclosed.

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.

2. Unroll the film, and cut the exposures apart one-fourth inch before each perforation.
3. Fill one of the trays nearly full of water, and put into it the exposures, 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.

4. Open one of the developer powders and put the contents (2 chemicals) into the beaker and fill it up to the ring with water. Stir until dissolved with the wooden stirring rod.
5. Take one of the exposures from the water and lay it, face up, in the second tray and pour upon it the developer. Rock it back and forth to prevent streaks and air bubbles; in about 1 minute the film will begin to darken in spots, representing the lights of the picture, and in about 2



minutes 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 lamp.

6. 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.

Eight or ten negatives can be developed one after the other in one portion of 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 film from staining them.

7. Put two tablespoonfuls of the Hyposulphite of Soda into the fourth tray, fill two-thirds full of water, and stir until dissolved. This is called the fixing bath.
8. 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.

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

10. Pour off the fixing solution into the slop bucket, and fill the tray with clear, cold water; repeat this at intervals of 5 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 tray. 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.

11. When the negatives are thoroughly washed, pin them by the four corners, face up, to a flat surface, to dry.

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 Kodaker 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, by closing the lens too soon on time exposures, or the use of a small stop in the lens when making snap shots. (The A Kodak requires no stops.)

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

OVER-EXPOSURE.

Caused by too much light.

Negative develops evenly, shadows almost as fast as high lights. No contrast, and no deep shadows. Over-exposure can be overcome in the development, by the addition of bromide of potassium to the developer. The printing and developing outfit includes a package of bromide, with directions, for its use. The novice will soon learn to recognize over-exposure, and to apply the remedy.

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.

FOG.

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

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

OVER-DEVELOPMENT.

Caused by leaving the negative too long in the developer.

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

UNDER-DEVELOPMENT.

Caused by removal from the developer too soon.

An undeveloped 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 re-washed.

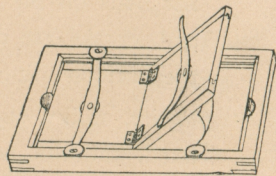
PART IV.

PRINTING ON FERRO-PRUSSATE PAPER.

Ferro-prussiate paper affords the easiest way of making proofs from Kodak negatives, no chemicals being required. The operation being simply to lay a piece of the prepared paper behind the negative, in the sun, until it is darkened sufficiently, and then wash the print for a few minutes in clean water. The resulting picture is of a very agreeable, bright blue color on a white ground, and is permanent.

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 the ferro-prussiate 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 on 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 strong light 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 shadows commence to bronze—a condition which will be readily observed after a few trials. When the print is done immerse it in a dish of clean water for twenty or thirty minutes, changing the water four or five times, and dry between blotters. If the prints curl when dry they can be straightened by the scraping action of a paper-knife applied to the back.

If the prints are too light when washed, it will be evident that the printing was stopped too soon; and, if too dark, *vice versa*.

The image, before the picture is washed, is quite indistinct, and two or three trials will be required to enable the novice to judge how far to carry the prints; but when learned with one negative it will be simple with all.

If the Kodaker wants silver prints from his negatives, he can send them to the factory by mail where they will be printed, mounted and burnished in a superior manner, and returned at a very moderate cost.

THE EASTMAN COMPANY,

ROCHESTER, N. Y.

THE EASTMAN PHOTOGRAPHIC MATERIALS CO., L't'd,

115 Oxford Street, London,

4 Place Vendome, Paris.

DEVELOPING AND PRINTING.

The Eastman Company was the first to render commercially possible the separation of the developing and printing from the *picture taking*. The division of labor inaugurated by them has brought picture taking within the reach of thousands of persons throughout the world who could not otherwise practice the art.

Carrying the division of labor still further, in our own factory we employ trained operators in every branch of the work. Men who do nothing but develop, girls who do nothing but print, men who do nothing but silver paper, men who do nothing but tone, girls who do nothing but mount prints, girls who do nothing but "spot" prints, men who do nothing but burnish, etc., etc. As a consequence, each becomes skilled in his or her particular branch, and the result, under good superintendence, is good work—better work, in particular and in average, than can be done, except under these favorable conditions.

We use only the best materials—double extra brilliant albumen paper and *gold* bevel-edged mounts (no bronze), and our prices are as low as consistent with the best work.

ENLARGING.

In this department we also claim to excel. We are the largest manufacturers and users of Bromide paper in the world, and our operators are skillful and experienced. Kodak negatives of all sizes lend themselves to enlargement with equal facility.

Any Kodak negative that will make a good contact print, will make a good enlargement of any size. An A Kodak negative, $2\frac{3}{4}$ x $3\frac{1}{4}$ inches, can be enlarged perfectly by us, up to 30 x 40 inches; or, of course, to any smaller size. By judicious management a negative can often be made to give a better enlargement than contact print. This is owing to the opportunity enlarging affords for "dodging" and extra printing.

Kodak enlargements, 14 x 17 inches, make attractive pictures for framing.

THE EASTMAN COMPANY,

ROCHESTER, N. Y.

THE EASTMAN PHOTOGRAPHIC MATERIALS COMPANY,
Limited,

115 Oxford Street, London. 4 Place Vendome, Paris.

PATENTS.

The KODAK CAMERA, ROLL HOLDER, Film, and processes, and machinery for manufacturing same, are covered by the following patents owned by THE EASTMAN COMPANY:

No. 248,179	October 11, 1881.	No. 370,111	September 20, 1887.
No. 306,594	October 14, 1884.	No. 370,216	September 20, 1887.
No. 316,933	May 5, 1885.	No. 388,850	September 4, 1888.
No. 317,049	May 5, 1885.	No. 405,454	June 18, 1889.
No. 317,050	May 5, 1885.	No. 407,396	July 23, 1889.
No. 355,084	December 23, 1886.	No. 407,647	July 23, 1889.
No. 358,893	March 8, 1887.	No. 408,596	August 6, 1889.
No. 370,050	September 20, 1887.	No. 414,735	November 12, 1889.
No. 370,110	September 20, 1887.	No. 417,202	December 10, 1889.

Other patents pending.

THE EASTMAN COMPANY,

ROCHESTER, N. Y.

LIST OF PRINCIPAL

FOREIGN KODAK DEALERS.

- Aaren, Switzerland, FREY & CO.
 Adelaide, Australia, BAKER & ROUSE.
 Amsterdam, Holland, E. FISCHER, JR., 88 Gelderschekade.
 Amsterdam, Holland, GROOTE & ZN., Kalverstraat.
 Antwerp, Belgium, L. VAN NECK, Rue Klapdorff.
 Auckland, New Zealand, J. B. BROOMHALL & Co.
 Berlin, Germany, ROMAIN TALBOT, Kaiser Wilhelm-Strasse 46.
 Brussels, Belgium, SEB. GECELE, 86 Marche Aux Herbes.
 Brussels, Belgium, J. MARYNEN & CO., 22 Montague Aux Herbes
 Potageres.
 Brussels, Belgium, J. VANDENSCHRIJK, 141 Chaussée d'Anvers.
 Calcutta, India, JOHN BLEES.
 Christiana, Norway, H. ABEL, Prindsensgade 11.
 Christiana, Norway, J. L. NERLEIN, Skippergaden 28.
 Constantinople, Turkey, E. J. MERTZANOFF, 54-56 Kası Meidandjik
 Stamboul.
 Copenhagen, Denmark, BUDTZ MULLERS EFTERFOLGERE, Amagat
 ory 22.
 Douanne, Switzerland, ENGEL-FEITNECHT.
 Florence, Italy, PIETRO SBISA, Piazza Signoria 4.
 Havana, Cuba, J. S. LOPEZ, O'REILL 19.
 Honolulu, H. I., HOLLISTER & CO.
 Jubbulpore, India, JOHN BLEES.
 Liege, Belgium, C. B. JONNIAUX ET FRÈRES.
 Lima, Peru, PETER BACIGALUPI & CO.
 Lisbon, Portugal, J. J. REIRO, 222 Rua Furea.
London, England, EASTMAN PHOTOGRAPHIC MATERIALS COMPANY,
 Limited, 115 Oxford Street.
 Madrid, Spain, LOHR Y MOREJON, Espoz y Mina 3.
 Melbourne, Australia, BAKER & ROUSE.
 Mexico, City of, JULIO LABADIE SUCRS Y CIA., Calle, de la Profesa 5.
 Milan, Italy, LAMPERTI & GERBAGNATI, Via Omenoni 4.
 Odessa, Russia, JOSEPH POKORNY, Rue de la Poste.
Paris, France, THE EASTMAN PHOTOGRAPHIC MATERIALS COMPANY,
 Limited, 4 Place Vendôme.
 Rome, Italy, PIETRO SBISA, Via del Corso 14.
 Shanghai, China, LLEWELLYN & CO., Medical Hall.
 Stockholm, Sweden, NUMA PETERSEN, Hamngatan.
 St. Petersburg, Russia, IOCHIM & CO., Mali Morskai 4.
 Sydney, Australia, BAKER & ROUSE.
 Sydney, Australia, LICHTNER & CO., O'Connell Street.
 Valencia, Spain, A. GARCIA, Pa. Sn. Francisco 10.
 Vienna, Austria, LECHNER & CO., 31 Graben.
 Yokohama, Japan, COCKING & CO.