Picture Making with the Vest Pocket Kodak

This instruction manual for the Vest Pocket Kodak was scanned and made available by Mischa Koning - www.3106.net.

Picture Making with the Vest Pocket Kodak.

Price three pence.

KODAK, Ltd.,
Kingsway, London, W.C.,

60 Cheapside, E.C.; 115 Oxford Street, W.; 173 Regent Street, W.; 40 Strand, W.C.; 59 Brompton Road, S.W.; 1-2 Gracechurch Street, London, E.C.; 96 Bold Street, Liverpool; 34, Grainger Street; 45 Corporation Street, Birmingham; 72-74 Buchanan Street, Glasgow; 89 Grafton Street, Dublin.

CONTENTS.

Before attempting to make a picture, read the following instructions carefully. Make yourself perfectly familiar with the Kodak, and especially with the shutter, before inserting the film. Bear in mind that the light can spoil the sensitive film as quickly as it makes the picture. Throughout all the operations of loading and unloading, therefore, keep the paper wound tightly around the film to prevent the admission of light.

LOADING.

The film for the Vest Pocket Kodak is supplied in light-proof spools (Fig. 1) and the camera can therefore be loaded in daylight. This operation should, however, be performed in a subdued light—not in the glare of bright sunlight. After the seal round the spool is broken, keep the paper taut, otherwise it may loosen sufficiently to admit light and spoil the film.

Fig. 1.

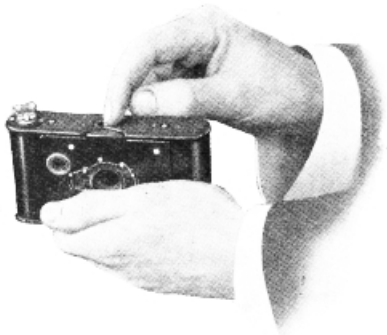


Fig. 2.

Hold the Kodak in the left hand, and push back the catch as in Fig. 2. Lift and remove the top of the Kodak with the thumbs as shown in Fig. 3.

Fig. 3.

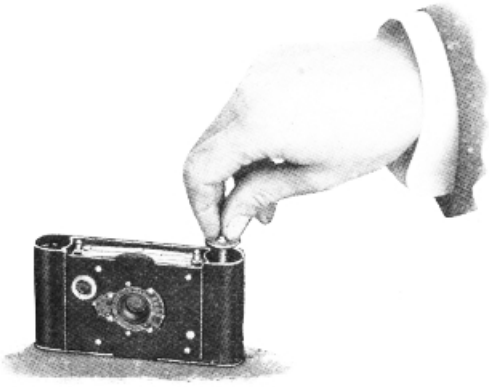


Fig. 4.

In the film pocket at one end of the Kodak will be seen an empty metal spool. This is the spool upon which the film is to be wound after

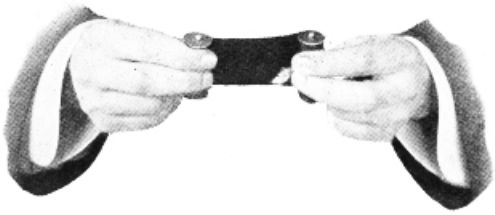


Fig. 5.

each exposure. Remove the spool with the thumb and forefinger as in Fig. 4.

Remove the gummed slip that encircles the spool, and pass the tapered end of the red paper into the slit of the empty spool, so that the slotted end of the spool will be at the top, while that of the full spool will be at the bottom. Give the empty spool three or four turns—enough to engage the paper—taking care that the paper draws straight and true. See Fig. 5.

The Kodak may now be loaded by unrolling about four inches of the paper and lowering the two spools into the film pockets, one at each end of the instrument, allowing the paper connecting the two to slide into the slot at the back of the Kodak, as in Fig. 6.

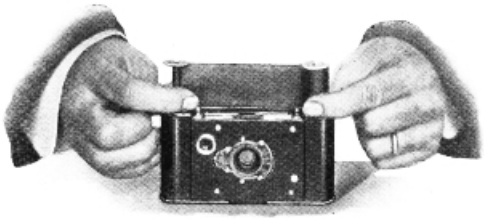


Fig. 6.

NOTE.—It will be found that, by inserting the empty spool into its pocket first, for about one-quarter of an inch, the paper will readily slip into the slot at the back of the Kodak without tearing.

After the spools have been lowered into the pockets, push both as far down as possible. The tension springs in the film pockets will hold them securely in position, creating sufficient drag to keep the film flat.

The paper should now be in the position shown in Fig. 7.

Fig. 7.

Replace the top of the Kodak, but before fastening the catch, press the top down slightly, and turn the winding key until the web on the key engages in the slot in the spool, when the top of the Kodak will take its proper place, and the paper will be seen through the red window to

move when the key is turned. Then slide the catch over to secure the top.

NOTE.—If the top is not properly fitted, light will be admitted and the film will be spoiled.

Throughout the foregoing operations keep the paper wound tightly on the spool. If it be allowed to loosen, light will be admitted and the film will be spoiled.

Fig. 8.

The film is covered with paper, and the excess of this must be wound off before a picture can be taken. Turn the key slowly and watch the little red window in the back of the Kodak. See Fig. 8.

When 15 to 18 half turns have been given, first a hand and then the number 1 (black on red) will be visible through the red window. Fig. 9.

Fig 9.

The film is now in position for the first picture.

OPENING THE KODAK.

Grasp the camera in the left hand, and with the thumb and forefinger of the right hand, take hold of the lips at the right and left of the front, as in Fig. 10.

Fig. 10.

Extend the bellows by pulling out the front as far as it will go. When the front is nearly out a slight check will be felt Continue to pull until the front will pull out no further. The camera is now in focus (see Fig. 11.)

Point the Kodak at the object to be photographed, and locate the image in the finder. Always look into the finder from directly over it—

Fig. 11.

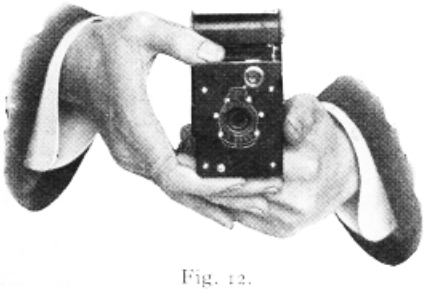


Fig. 12.

not at an angle. The finder shows as nearly as possible a fac-simile of the picture, but on a reduced scale.

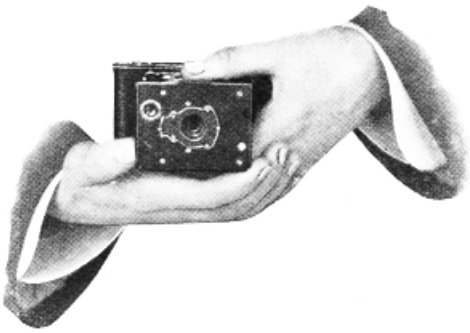
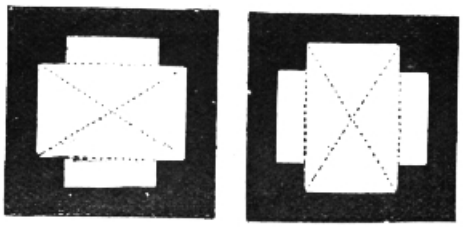


Fig. 13.

To make a vertical picture, hold the camera as shown in Fig. 12. The view in this case will be as shown by the dotted lines in Fig. 14 (b).

To make a horizontal picture, turn the finder and hold the Kodak as shown in Fig. 13, and



A. Fig. 14. B.

remember that only the view indicated by the dotted lines in Fig. 14 (a) will be shown in the picture.

The Kodak must be held level and steady, as the least movement will cause a blurring of the picture.

Fig. 15.

If the operator attempt to photograph a high building, while standing near it, by pointing the Kodak upward, the result will be similar to Fig. 15. This building should have been taken

from the middle storey of an opposite building, or by withdrawing if possible to the distance at which, the Kodak being level, the top of the building is included in the finder.

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

All being in readiness hold the Kodak level and steady, and press the shutter release with the thumb. This makes the exposure.

The pressure on the release may be relaxed immediately the shutter is heard to operate.

The length of an instantaneous exposure determined by the position of the indicator A (Fig. 16), not by the length of time the release is pressed down. It must not be supposed that a "time" exposure can be given by maintaining the pressure on the release unless the indicator A is set to the letter B (Fig. 16).

To bring another section of film into position turn the key slowly until the next number (black or red) is visible through the red window. The warning hand appears only before section No. 1.

Repeat the foregoing operations for each instantaneous picture.

NOTE.—When the Kodak is not in use protect its face from the direct rays of the sun.

THE SHUTTER.

Perfect familiarity with the action of the shutter is essential to successful picture making.

A

B

Fig. 16.

For the convenience of beginners and those who have difficulty in deciding upon the shutter speed and the lens aperture required by a given subject, the Vest Pocket Kodak is equipped with the Autotime Scale (Fig. 16). This scale enables the most inexperienced to make the proper adjustments for any outdoor subject and any condition of light.

The top scale, under the indicator A, Fig. 16, relates to the strength of light. The bottom scale over indicator B, Fig. 16, relates to the kind of subject.

THE AUTOTIME SCALE.

Top Scale.—Strength of Light.

BRILLIANT.—Set the indicator A to this point *only* when the sunshine is clear and intense and falls directly on the principal part of the picture.

CLEAR.—Set the indicator A to this point for ordinary sunshine, and for intense sunshine when it is not falling directly on the principal part of the picture.

NOTE.—When the indicator A is set at "Brilliant" or "Clear," the Kodak may be held in the hand as the exposure will be instantaneous

GRAY.—Hazy or dull sunshine, when the shadow cast by the sun would be called "half-shadow"—a distinct shadow but not as strong as under "brilliant" or "clear" conditions. The indicator A must be set at T or B at the discretion of the user and an exposure given of half-a-second.

DULL.—Dull may be described as when a very faint shadow is barely visible. The indicator A must be set at T or B and the exposure must be three-quarters of a second.

VERY DULL.—When the sky is completely overcast and no shadow of any kind is visible, set the indicator A at T or B and give one second's exposure.

NOTE.—When the indicator A is at T or B the Kodak must be placed on some firm, level support.

Bottom Scale—Kind of Subject.

Set the indicator B, Fig. 16, to the point corresponding with the kind of subject.

MARINE, CLOUDS.—For pictures in which either of these subjects is the *principal* feature of the picture.

DISTANT VIEW.—For landscapes, mountain views, etc., where the whole subject is at a distance—in other words, a general view, without a *principal* object in the foreground.

AVERAGE VIEW.—A general landscape *with a principal object in the foreground*, the general landscape being in the nature of a background to the principal object.

NEAR VIEW-PORTRAIT.—For views less than one hundred feet distant and for general portraiture.

NOTE.—Expose always for the principal object in the picture.

For rapidly moving objects put the indicator A at "brilliant."

Ordinary moving objects, such as people walking, street traffic, etc., can be taken with the indicator A at "brilliant" or "clear."

If it is desirable to use a lens aperture smaller than that indicated by the kind of subject in order to increase the depth of focus of the lens, this may be done, but a compensating increase must be made in the length of exposure. Thus, indicator B may be moved from "average view" to "distant view" or "clouds" to increase the depth of focus of the average view, but the exposure must be increased, and if the light is "gray," you must regard it as "dull," or "very dull" as the case may be. This will give the same resultant exposure with the increased depth

desired. The reverse of this is also true, and any departure that experience suggests may be made from the scale directions providing that the exposure is adjusted accordingly.

In cities where the light is modified by high buildings, use a lens aperture slightly larger than the one indicated.

The Autotime Scale is marked for summer at midday. During winter and in the morning and afternoon, use the aperture next larger than the one indicated.

Indicators A and B having been set according to the light and the subject, and an unexposed section of film being in position, press down the shutter release immediately behind the camera front.

If the indicator A is at 25 (clear) or 50 (brilliant) a single pressure of the release will make an instantaneous exposure, however long you keep the release under pressure. If the indicator A is at T (gray, dull and very dull) one pressure of the release will *open* the shutter, and another pressure must be given at the end of the desired exposure to *close* the shutter. If the indicator is at B, the shutter will remain open as long as the release is under pressure, and will close immediately the pressure is relaxed.

Immediately after every exposure, turn a new section of film into position, as described on page 9.

ALTERNATIVE METHOD.

If preferred, the following instructions may be substituted for those relating to the Autotime Scale commencing on page 16.

Instantaneous Exposures.

When making instantaneous exposures the subject should be in the broad, open sunlight but not the camera. The sun should be behind the back or over the shoulder of the operator. If it shine directly into the lens it will spoil the picture.

FIRST.—Set the indicator A at 25 or 50. This adjusts the shutter for exposures of 1-25 and 1-50 of a second.

SECOND.—Set the indicator B at No. 2, the proper opening for ordinary instantaneous exposures.

THIRD.—Press down the spring shutter release immediately behind the camera front. This makes the exposure.

NOTE.—In bright light, set the indicator at 50, the highest speed. In more subdued light set it at 25, but do not attempt to make instantaneous exposures in very dull light.

Time Exposures.

The Kodak carries a pivoted strut on the inner side of the front—enabling the Kodak to stand in an upright position on a table or other firm and level support as in figure 17.

No strut is wanted when the Kodak is used for a horizontal picture, as in figure 18.

Time exposures cannot safely be made in the hands.

FIRST.—Set the indicator A, fig 16, to the point T.

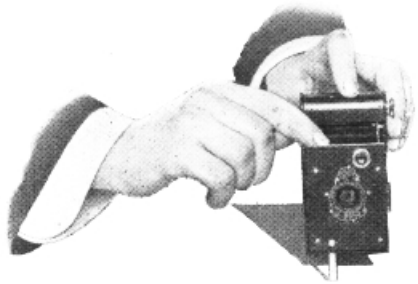


Fig. 17.

SECOND.—Set the indicator B, at No. 2, 3 or 4. See paragraph on the lens aperture, page 25.

THIRD.—Press down the shutter release immediately behind the camera front. This opens the shutter. Time the exposure by the watch. Again press the release. This closes the shutter.

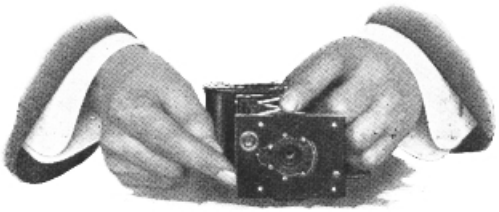


Fig. 18.

Short Time Exposures.

Time exposures shorter than a second are best given in the following way:

FIRST—Set the indicator A (Fig. 16) to the letter B.

SECOND—Set the indicator B (Fig. 16) at No. 1, 2, 3 or 4. (See paragraph on the lens aperture, page 25.)

THIRD—Press the release to open the shutter and release it to close the shutter, taking care not to jar the camera.

NOTE.—The shutter will remain open as long as the release is under pressure.

Use the "time exposure" movement (indicator A at T) for exposures of a second or more.

Before taking a picture with the Vest Pocket Kodak always be sure of three things:—

1. That the shutter is adjusted properly for the exposure to be given—time or instantaneous.
2. That the lens aperture is set at the proper opening.
3. That an unexposed section of the film is in position.

Interiors.

Set the Kodak in such a position that the finder will embrace the view desired, pulling down the pivoted strut in the case of vertical pictures.

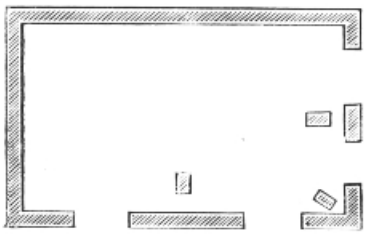


Fig. 19.

Fig. 19 shows three positions for the Kodak, each chosen so that the Kodak will not be pointed directly at a window, for the reason that the glare of light will spoil the picture. If all the windows cannot be avoided, pull down the blinds of those which come within the range of the Kodak.

Under ordinary circumstances aperture No. 2 is the best for interiors, and the following table gives the approximate exposure required under varying conditions of light with that stop, for rooms whose windows get the direct light from the sky, and for times of day between three hours after sunrise and three hours before sunset.

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

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 one window:

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

Medium coloured 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 coloured walls and hangings, and one window:

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

Dark coloured 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 coloured walls and hangings, and one window:

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

If the largest aperture be used, give half the time in the table. With the third aperture double the time and with the fourth aperture multiply by four.

Time Exposures in the Open Air.

When aperture No. 4 is before the lens the light admitted is so much reduced that time exposures out of doors may be made as in 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 2 to 5 seconds will be required.

These figures are for the time of day lying between three hours after sunrise and three hours before sunset and for objects in the open air. For other times of day and for objects in the shadow, under porches or under trees, accurate directions cannot be given; experience only can indicate the proper exposure.

THE LENS APERTURE.

The adjustable opening in front of the lens, actuated by indicator B (Fig. 16), controls the amount of light passing through the lens.

The apertures are marked 1, 2, 3 and 4, and should be used as follows:

No. 1—For near views and portraits.

No. 2—For ordinary instantaneous exposures.

No. 3—For instantaneous exposures when the sunlight is unusually strong and there are no heavy shadows; such as in views on the sea shore, in extremely high, dry climates, or on the water or in tropical or semi-tropical climates; also for interior time exposures.

No. 4—For time exposures out of doors in cloudy weather—not for instantaneous exposures, excepting very distant views, expanses of water and clouds. Time exposures on cloudy days with the smallest stop, No. 4, will range from ½ second to 5 seconds according to the light.

The smaller the stop the sharper the picture, but do not use the smallest stop for instantaneous exposures.

Portraits.

Place the sitter in a chair partly facing the light, and turn the face slightly towards the Kodak, which should be at the height of an ordinary table. The proper distance from the Kodak to the subject can be ascertained by looking at the image in the finder. For three-quarter figures the Kodak should be 6 to 8 feet from the figure, and for a full figure 8 to 10 feet.

Kodak Portrait Attachment.

By the use of a Kodak Portrait Attachment (Fig. 20), large head and shoulder pictures may

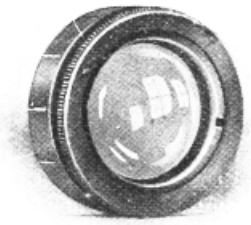


Fig. 20.

be made. This Attachment is so valuable on many occasions that every Kodak user, when he knows what it will do, will add one to his outfit.

The Attachment is an extra lens which slips in front of the ordinary lens, and enables the user to approach closer to the subject, and thus get a larger image, without spoiling the definition.

The Kodak Portrait Attachment does not interfere in the slightest degree with the ordinary use of the Kodak, as it can be removed, when not required, as quickly as it can be affixed.

With the attachment in position the subject should be placed exactly 3½ feet from the lens.

The Kodak Portrait Attachment may also be used to photograph flowers and other small objects on an enlarged scale.

See special pamphlet, post free on application.

Be sure to specify the Vest Pocket Kodak when ordering the Attachment

Groups.

Arrange the chairs in the form of an arc, facing the Kodak, so that each chair shall be about the same distance from the Kodak. Half of the group should be seated and the rest should

stand behind the chairs. If the group be large, any number of chairs may be used, but none of the subjects should be seated on the floor with limbs extended toward the Kodak.

Backgrounds.

In making single portraits or groups care should be taken to have a suitable background against which the figures will show in contrast or 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.

Flashlight Pictures.

Kodak Flashlight Cartridges have wonderfully simplified picture-taking at night, and enabled the amateur to obtain souvenirs of evening parties, groups around the dinner or card table, and single portraits which, but for the flashlight, would be beyond the range of the Kodak.

These flashlight cartridges make it possible also, to photograph interiors which cannot be taken by daylight, either by reason of 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.

Kodak Flashlight Cartridges require no lamp, and give a minimum of smoke.

Prepare the Kodak for "time" exposures as directed on page 20, but use the largest stop. Place the Kodak on some firm level support, whence it will take in the view desired.

Uncork a flashlight cartridge and pour the quantity of powder required to light the subject in a ridge upon a metal tray or dish. The quantity of powder required varies with the distance of the object farthest from the camera,

and the colour of the walls and hangings of the room. At one end of the ridge stick a piece of the touch paper supplied with the cartridges.

The flashlight should always be placed two feet behind and two or three feet to one side of the Kodak, so as to throw a shadow and give a little relief in the lighting. If placed in front, or on a line with the front of the Kodak, the flash will fall upon the lens and blur the picture. The flash should be the height of or a little higher than the Kodak, and a white cardboard reflector placed behind the powder will increase the illumination. The support upon which the flash is to be made should not project far enough forward to cast a shadow in front of the Kodak.

The finder on the Kodak will facilitate the arrangement of the subject for the best effect. In order to make the image visible in the finder, the room will have to be well lighted with ordinary gas or lamplight, which need not be extinguished while the picture is being made, provided none of the lights is placed so that it shows in the finder.

In the case of a portrait the flash should not be higher than the head of the sitter, and should be on the side of the Kodak away from the face —the sitter should not face it.

As to the arrangement of a group or a single figure, and choice of background see pp. 26 & 27.

Having the Kodak and the flash powder both in position, and all being in readiness, open the shutter and ignite the end of the touch-paper with a match. In a few seconds there will be a bright flash which will impress the picture on the sensitive film. Then push the release to close the shutter, and turn a fresh section of

film into place with the key, ready for another picture.

Caution.—The flash is instantaneous, and, to prevent accidents, care must be taken not to hold the touch-paper with the fingers when igniting it. If the powder is ignited directly without the use of touch paper, use a long taper—never a match. Keep clear of the flash.

Closing the Kodak.

After using the Kodak, see that the finder is in the upright position; then push back the front, reversing the operation shown in figure 11.

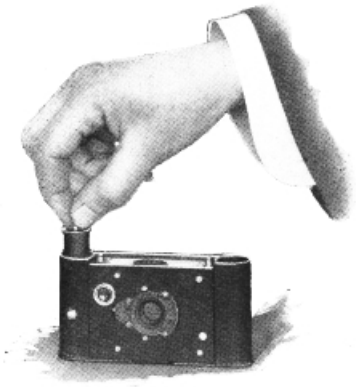


Fig. 21.

Removing the Film.

The removal of the exposed spool and the insertion of a new one should be performed in a subdued light, but a dark room is not required.

When the last section of the film (No. 8) has been exposed, turn the key about 14 half turns. This winds the paper round the exposed film and protects it from the light when the top of the Kodak has been removed.

Provide a new spool of film.

Remove the top of the Kodak as described on page 5 and take out the spool of exposed film with the thumb and forefinger, taking care that the duplex paper does not unroll. Fig. 21.

Fold in the end of the paper about an inch so as to make subsequent breaking of the seal easy and fasten it down with the sticker.

Wrap up the exposed film immediately to prevent possible injury by exposure to strong light.

Now take out the empty spool and reload the Kodak as previously described.

The exposed spool can be posted to us for finishing (see price list), or you can do the developing and printing yourself.

NOTE.—In posting 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.

"Cinch Marks."

If the film and paper loosen a trifle when taken from the camera, it is the practice with some to take the spool in the hand and wind it as closely as possible, cinching it tightly with a twisting motion. There is nothing more likely to injure the negative than this tight drawing of the film, as it abrades the surface, making fine parallel scratches running lengthwise of the film, which in some cases will ruin the negative. Do not "cinch" the spool. It simply needs to be wound tightly enough to keep the paper inside the flanges of the spool.

DEVELOPING.

There is no necessity to work in a darkroom or to wait until night and then develop in the dim light of a ruby lamp. By means of the Vest Pocket Kodak Developing Tank, you can do your developing at any time and anywhere. And more important than the ease and convenience of developing your films in this way, is the fact that you will have better results than you can get by hand development.

Detailed directions for developing by this method will be found in the Manual which accompanies the machine and in the leaflet which we will send post free to any address. The operations are briefly described in the following pages.

Developing with the Vest Pocket Kodak Developing Tank.

The V.P.K. Developing Tank outfit consists of a wooden box (Fig. 22), a light-proof celluloid band or apron, a flanged transfer reel, two cranked axles, a cylindrical metal tank in which

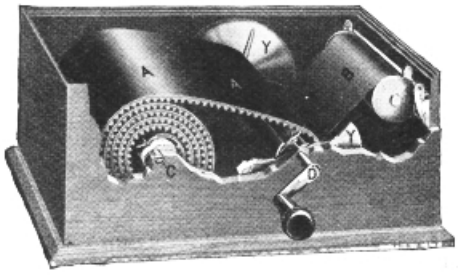


Fig. 22.

the film is developed (Fig. 24), and a hooked rod for removing the film from the tank. There is

also a dummy spool with which one should practise the following operations before developing an exposed spool.

The axles C and D must be inserted in the holes in the box—axle C from the back of the box, axle D from the front of the box. The front will be towards you when the spool carrier at the end of the box is to your right. Axle C must be passed through the hollow spindle. Axle D must be passed through the hub of the flanged transfer reel Y.

Now attach one end of the apron to the spindle through which axle C passes, by engaging the metal hooks with the lugs on the spindle. The rubber corrugations must be downward. Turn axle C towards the left end of the box, maintaining a slight tension upon the apron when so doing, by bearing upon it with the hand.

Film to be used in the V.P.K. Developing Tank must be fastened to the paper at both ends. All films are fastened at one end at our factory. For instructions how to fasten the other end see the Tank Manual.

Insert the spool of exposed film in the spool carrier in such a manner that the paper B will lead downward from the top of the spool when unwound. Close up the movable end of the spool carrier so that the spool is firmly held. The metal projections on the spool ends must pass into the corresponding openings in the carrier.

NOTE.—If the carrier be lifted up the spool may be inserted more conveniently.

Break the gummed slip that holds down the end of the paper, pass the paper underneath the wire on the transfer reel, Fig. 22, and turn the

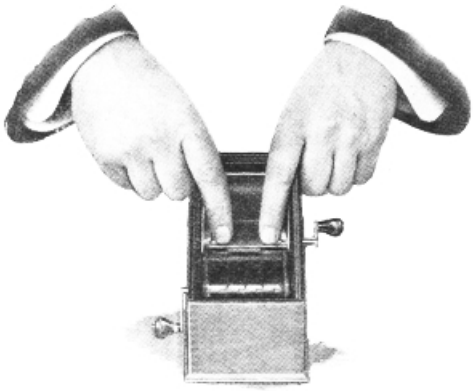


Fig. 23.

axle D slowly to the right until the word "stop" appears on the paper.

Now hook the free end of the apron to the lugs on the transfer reel, and turn the crank D half a revolution, so that the apron becomes firmly attached, and replace the cover of the box. Then turn slowly and steadily until the paper, the film, and the apron are rolled up together on the reel. As soon as this is complete the crank will turn very freely.

Now take off the lid, pull out axle D, remove the transfer reel, (containing the apron, the paper and the film) and insert it in the tank (Fig. 24) in which the developer has been prepared. The removal of the transfer reel from the box

can be done in the light of an ordinary room, but the light should not be too bright. Do not squeeze the apron, but hold it loosely or slip a rubber band round it to prevent it from unrolling. Let the transfer reel slide down slowly into the tank so that none of the solution is lost by overflow.

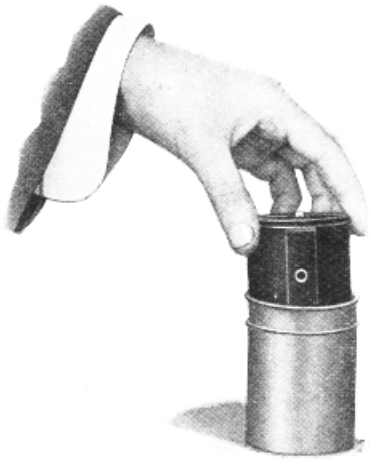


Fig. 24.

The developer quickly reaches all parts of the film, but the transfer reel should be lifted a little two or three times with the wire hook to expel air bubbles, taking care, however, not to raise any part of the reel above the surface of the solution.

The developer we recommend is supplied by

Fig. 25.

us in accurately weighed powder form and no other should be used. When ordering, specify V.P.K. Tank Powders.

The solution should be prepared by dissolving the contents of the large packet in two or three ounces of lukewarm water in the tank, filling up the tank with cold water to the embossed or projecting ring which will be found near the top of the tank, and then adding and dissolving the contents of the smaller packet. Neither very cold nor warm developer should be used. The proper temperature is 65 degrees Fahr. The solution should be freshly mixed, and should be used once only. Care should be taken that the powders are thoroughly dissolved.

After two minutes place the lid on the tank pushing it down as far as it will go so as to make a water tight joint (Fig. 25) and turn the tank bodily upside down in a plate or dish to catch

any leakage from the tank. Repeat this operation every three minutes during development which will be complete in 20 minutes if one pair of powders is used—ten minutes if two pairs of powders are used.

When development is complete—that is, when the twenty or ten minutes have elapsed—pour out the developer, fill the tank with clear cold water, and pour off, repeating the operation three times to wash the film. Then remove the transfer reel, separate the film from the paper, and place it immediately in the fixing bath (See page 40), which should be in readiness in a dish or bowl of good size. All of these operations can be carried out in subdued daylight.

Time and Temperature for Tank Development.

If there is any difficulty in securing or maintaining the normal temperature of 65 degrees Fahr., the time of development must be modified according to the following table :—

Temperature.	*Time for One Powder.*	*Time for Two Powders.*
70 Degrees	15 Minutes	8 Minutes
69 ..	16 ..	
68 ..	17 ..	9 ..
67 ..	18 ..	
66 ..	19 ..	
65 .. Normal	**20 .. Normal**	**10 .. Normal**
64 ..	21 ..	
63 ..	22 ..	
62 ..	23 ..	11 ..

Temperature.	*Time for One Powder.*	*Time for Two Powders.*
61 Degrees	24 Minutes	
60 ..	25 ..	
59 ..	26 ..	12 Minutes
58 ..	27 ..	
57 ..	28 ..	
56 ..	29 ..	13 ..
55 ..	30 ..	
54 ..	31 ..	
53 ..	32 ..	14 ..
52 ..	33 ..	
51 ..	34 ..	
50 ..	35 ..	15 ..
49 ..	36 ..	
48 ..	37 ..	
47 ..	38 ..	16 ..
46 ..	39 ..	
45 ..	40 ..	17 ..

The temperature of the developer must not exceed 70 degrees Fahr., as above that point there is a danger of frilling. The lowest temperature at which the developing powders can be dissolved is 45 degrees Fahr, and even at this temperature the powder must be finely crushed and added slowly to the water.

Developing several spools at one time.

Several spools may be developed at one time with the help of "Duplicating Outfits." These consist of one tank, one transfer reel, and one apron. The original box will serve the purpose of winding the spools into the aprons.

Those who do not possess the V.P.K. Developing Tank may proceed as follows :—

Developing in the Dark Room.

Provide a Developing and Printing Outfit (see Price List) containing :—

1 Ruby Lamp.
4 Developing Dishes.
1 Glass Measure.
1 Printing Frame.
1 Glass for same.
1 Stirring Rod.
Developing Powders.
Kodak Acid Fixing Salt.
1 Packet of Self Toning Solio P.O.P.
1 Tube of Toning Crystals.
1 Package of Bromide of Potassium.
Instructions

Also provide a pair of scissors, a pitcher of cold water, a pail for waste, 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 where, when the door is closed, no ray of light can be seen :

Set up on the table or shelf the lamp, having first placed inside and lighted a piece of candle or night-light.

The lamp gives a subdued ruby 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 towards you.

Fig. 26.

Into a jug or glass, measure four ounces of water. Open one of the developer powders and drop the contents (two chemicals) into the four ounces of water. Stir with the stirring rod, until the powders are dissolved.

Unroll the spool and detach the entire strip of film from the paper, taking care not to touch the face of the film in so doing.

Pass the film several times face down through a dish of cold water, as shown on Fig. 26, holding one end in each hand in order that any bubbles forming on the film may be removed. When it is thoroughly wet and free from air bubbles it is ready for development.

Now pass the film through the developer in the manner before described, keeping it constantly in motion. In about one minute the high lights will begin to darken and you will be able to distinguish the unexposed sections between the negatives. In about two minutes you will be able to distinguish objects in the picture.

Keep the strip constantly in motion, allowing the developer to act 5 to 10 minutes. The pro-

gress of development may be watched by holding the negatives up to the lamp from time to time.

There is no harm in having your negatives of different density—this can be set right in the printing. The difference in the density does not affect the contrast in the print.

Kodak N.C. Film is very rapid and orthochromatic, and is therefore liable to fog unless handled very carefully in the dark room or developed in the Developing Tank. It should not be exposed therefore unduly to the ruby lamp.

After completing development, transfer the strip to the third dish and rinse two or three times with clear cold water.

Fixing.

Kodak N.C. Film must always be fixed in an acid fixing bath. There is nothing superior to the Kodak Acid Fixing Salt. To prepare the bath dissolve 1 oz. of the Salt in 8 oz. of water. As soon as the salt has dissolved, the fixing bath is ready for use. Any quantity of the bath may be prepared in the above proportions.

If the ordinary hyposulphite of soda be used, the bath should be prepared as follows:—

Water	16 ounces
Hyposulphite of Soda	4 ounces
Sulphite of Soda (anhydrous) ...	80 Grains

When dissolved, add the following hardener:—

Powdered Alum ...	½ ounce
Citric Acid	⅛ ounce

This bath may be made up any time in advance, and may be used so long as it retains its strength or is not so much discoloured as to stain the negatives.

Immerse the strip of film in the fixing bath and leave it until it is quite clear of white spots and is

transparent instead of milky by transmitted light, moving it about occasionally to ensure even fixing. This will require about ten minutes.

The dark room door may be opened as soon as the film has been put into the fixing solution.

Pour off the fixing solution, and fill the dish with clear cold water; repeat this, at intervals of five minutes, five or six times, keeping the strip in motion, or transferring it from one dish to another to ensure thorough washing.

A particular dish should be kept for the fixing solution, and the negatives after fixing must not be put into the dishes used for the preliminary soaking and for developing. Do not allow the fixing solution to touch the film, through the agency of the fingers or otherwise, until it is ready to go into the fixing bath, otherwise it will be spotted and ruined.

Fig. 27

Drying.

When the strip of film is thoroughly washed, remove the surplus water with a squeegee or soft damp cloth.

Now affix a Kodak Film Clip to each end of the strip, and hang it up to dry, taking care that it swings clear of the wall, so that neither side comes into contact with anything (Fig. 27).

When the strip of film is dry the negatives can be separated and are ready for printing, as described on p. 44.

Keep the finished negatives flat—do not roll them up. A Kodak Indexed Negative Album keeps them in perfect order.

Under-Exposure.

Slowness in the appearance of the image in development, and absence of detail in the shadows indicates under-exposure.

This is caused by making snapshots indoors, in the shade when the light is weak, late in the day, or by closing the lens too soon on time exposures.

Over-Exposure.

An over-exposed film develops too quickly, the shadows almost as fast as the high lights, and gives a negative lacking contrast. If the film is known to be considerably over-exposed before development is begun the addition of bromide of potassium to the developer before it is applied to the film will counteract the over-exposure. The printing and developing outfit includes a package of bromide, with directions for its use.

Developer containing bromide should not be used for another film unless this also is known to have been over-exposed.

Over-Development.

If the negative is very strong and intense by transmitted light, and requires a very long time to print, it has been over-developed, either by being left too long in the developer or by using too warm a developer. Such negatives may be improved by reducing them in the following manner:

Soak the negative for 20 minutes in water if it has been dried, then immerse it in Kodak Reducing Solution. (See price list, page 3 of cover).

Rock the tray gently until the negative has been reduced to the desired density, then wash for ten minutes in running water or in four changes of water.

Negatives may be reduced locally by applying the solution to the dense parts with a camel-hair brush, rinsing off the reducer with clear water occasionally to prevent it from acting upon the parts of the negative that do not require reducing.

Under-Development.

An under-developed but properly exposed negative differs from an under-exposed one. It is thin and full of detail, instead of harsh and lacking in detail. Care must be taken not to remove the film too soon from the developer or to use too cold a solution.

If the negative is not strong enough (this can be judged only by experience), the negative can be improved by intensification.

Intensification—Soak the film in water, lay it in an empty dish and cover it with Kodak Chromium Intensifier. (See price list, page 3 of cover.)

Allow the intensifier to act until the film is thoroughly bleached; then return the solution to the bottle and wash the film in four or five changes of water for fifteen minutes. Re-develop according to instructions.

PRINTING.

The Developing and Printing Outfit (see p. 38 includes Solio Self Toning printing-out paper and the necessary toning and fixing chemicals. This paper is made in glossy, matte and velvet surfaces. It is printed in daylight until the image is of the desired depth, and then toned and fixed, either in separate or combined solutions.

Printing on Velox.

Another paper, which we specially recommend, is Velox. This can be printed and developed by artificial light and gives beautiful black and white prints which can be changed to a pleasing sepia by a very simple process. To be able to make prints quickly, independently of daylight, and yet without a dark room, is an advantage that will appeal to every amateur

For Velox Printing provide:—

1 Printing Frame and Glass.
1 Bottle of Velox Developer (concentrated).
1 Tin of Kodak Acid Fixing Salt.
3 Dishes.
A packet of "Soft" (or special) Velox paper of the surface desired.

A complete outfit for printing Velox can be obtained. (See price list, page 3 of cover).

Soft Velox is supplied in the following varieties:—

Carbon (dead-matte)	Glossy (enamelled)
Art (satin surface)	Portrait (smooth matte)

Owing to its sensitiveness Velox should be handled in subdued artificial light, otherwise it will be spoiled. Direct rays of light should not be allowed to reach the paper while opening the packet, filling the frame, or during development.

Any artificial light can be used, but in the following instructions incandescent gas is the light referred to.

Open the printing frame and lay the negative, back downwards, upon the glass. The back is the shiny side. Place upon the negative a piece of Velox paper, face down, and close the back of the frame. The paper curls slightly, the face or sensitive side being concave. If the corner of the sheet is gripped between the teeth, the sensitive side will be ascertained, as it will adhere to the teeth.

The unused paper must be kept covered in its envelope.

The "No. 1" Velox Printer, for use with artificial light, can be recommended. It is furnished with adjustments to ensure precision of exposure.

About ten seconds at seven inches from the light will be correct for the majority of negatives, and a test exposure on a small piece of paper will settle this point.

Arrange three dishes before you in this order:—

1.—Developer. 2.—Water. 3.—Acid Fixing Bath.

For the best results the developer should be at 65 degrees Fahr. To ascertain the correct temperature use the Eastman thermometer.

Velox can be developed in subdued artificial light.

Take the exposed piece of paper from the printing frame and immerse it dry, face up, in the developer (Dish No. 1).

Velox Concentrated Developer...	½ oz.
Water	1½ oz.

Cover the Velox paper quickly and evenly with the developer, and rock the dish for about 30 seconds.

NOTE.—Velox developer can also be obtained in powder form. See Price List.

At the end of this time the image should have reached the desired depth. Remove the print from the developer and rinse it *for a moment* in Dish No. 2. Then place it in the fixing bath (Dish No 3), composed as follows :—

Kodak Acid Fixing Salt	3 ozs.
Water.	25 ozs.

Do not use a fixing bath that has been used for fixing film, nor one exhausted by long use.

Keep the print moving for a few seconds when first immersed, and leave it in the solution for 15 minutes. Then remove the print from the fixing bath, wash it for half-an-hour in running water, or in ten changes of water.

The prints are now finished and may be hung up by a pin to dry after first removing the superfluous water with a clean, soft cloth or photographic blotting paper.

Full instructions for printing will be found in each packet. The Velox Book goes further into the uses of this paper and will be sent post free to any address.

Other Kodak Papers.

SOLIO SELF-TONING PAPER.

ARISTO SELF-TONING PAPER.

KODAK SELF-TONING COLLODION PAPER.

These are supplied in glossy and matte. They are printed until the image is of the desired depth, but it is only necessary to fix them in plain hypo to secure very fine tones.

KODAK BROMIDE PAPERS (Royal, White Royal, Permanent, Platino-Matte, Velvet and Nikko).

These papers require only a few seconds' exposure, the image being brought out by development. Kodak Bromide Papers make excellent enlargements.

KODAK PLATINUM PAPER (smooth and rough).

Is exposed until the image is just visible, and is finished by development. Platinum prints have a high reputation for permanence.

KODAK POST CARDS.

SOLIO (glossy, matte and velvet).

ARISTO SELF-TONING.

KODAK SELF-TONING COLLODION (glossy and matte).

BROMIDE (glossy, matte and velvet).

VELOX (all grades and surfaces).

MOUNTING.

The most satisfactory method of mounting is by means of Adhesive Dry Mounting Tissue and a suitable hot press. Prints so mounted lie perfectly flat, and will not buckle on even the thinnest mount. Full directions are supplied with the tissue.

Mounting with Paste.

Prints may be mounted with paste, and preferably should be mounted wet. After the dried prints have been trimmed to the desired size, immerse them in clean water for a few minutes. Now place them in a pile, face downwards, on a sheet of clean glass, and remove as much water as possible with a folded towel. Apply the paste with a bristle brush, working in the paste thoroughly, then lift the print by the corners, turn it over and place it in position on the mount. Cover with a clean sheet of blotting paper or cotton cloth and press into contact with a squeegee or a rubber print roller.

ENLARGING.

Any Vest Pocket Kodak negative that will give a good contact print will give a good enlargement. Enlarging, in fact, is often the making of a picture, and every Vest Pocket Kodak user should add the necessary apparatus to his outfit. The Vest Pocket Kodak Enlarging Camera gives postcard pictures from the small originals, is inexpensive, and as simple to use as the Vest Pocket Kodak. A child can do everything. Full particulars on application.