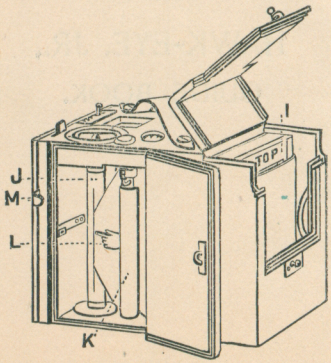
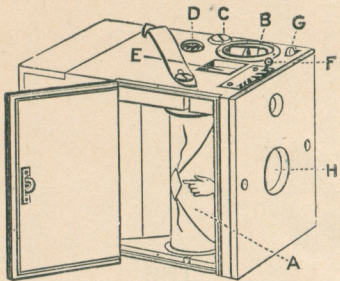


*THE
HAWK-EYE, Jr.,
GUIDE BOOK.*

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Description of Different Parts.

- A.** Supply Spool.
- B.** Winding Key.
- C.** Indicator.
- D.** Registering Tally.
- E.** Finder.
- F.** Shutter Spring.
- G.** Instantaneous Button.
- H.** Lens Aperture.
- I.** Back Frame.
- J.** Winding Spool.
- K.** Indicator Roller.
- L.** Paper End.
- M.** Time Button.

Important.

Before loading the Hawk-Eye, Junior, it is a good plan to look it over carefully, comparing the working parts as designated.

This will enable the operator to obtain intelligently the information required as set forth in the following instructions.

As furnished, the Hawk Eye, Junior, is not provided with a roll of film, these are obtained separately in lengths of 12 or 25 exposures. The film can easily be adjusted by proceeding as directed.

The Amateur should always bear in mind that white light should in no way reach the sensitive surface of the film until after it has been developed and fixed, so be very careful and keep the black paper wound tightly around the film to insure safety.

In the following directions, names in quotations refer to diagram.

To Load the Hawk-Eye, Jr., with film.

The Hawk-Eye, Junior uses Sunlight Film, which is supplied in light-tight rolls, to allow loading or unloading by daylight.

To insure against all dangers, it is advisable to select a place where the light is not strong and this work should never be performed in the glare of bright sunlight.

After selecting a suitable position open the back door by unfastening the catch and remove the pressure board, then open the cover on the side which accommodates the "Supply Spool" by pressing a hidden spring on the front of the camera. Insert the spool of film by passing the small rod through the centre and dropping it into the slots provided with the index hand on top and pointing toward the rear end of the camera, as represented in diagram "Supply Spool."

Unfasten the "Paper End" by tearing with the string provided and draw 4 or 5 inches, or enough to reach to the rear end of the camera. Pass the end along the side, at the same time holding the thumb of the left hand on the roll to prevent the black paper from loosening. When enough length has been unwound to reach the back end of the camera close the

cover. Access to the "Paper End" can then be had by the rear door, continue passing the film around outside of the "Back Frame" and toward the front of the camera on the opposite side from which it was started, open the side cover nearest the "Winding Key" and tuck the "Paper End" beneath the "Indicator Roller" and through the slot in the "Winding Spool" and turn the "Winding Key" until the end is secured.

In the diagram this is represented and shows the position of the paper end before turning the Winding Key.

Be careful that the end is started straight; should one edge bear harder on the head of the spool than the other, adjust it evenly in the slot and see that it is placed true upon the reel.

Place the pressure board in the rear end of the camera so the paper will come between this and the "Back Frame" and then close and see that all covers are securely fastened. The "Registering Tally" should be set upon 0, before proceeding further, this can be done by turning the "Indicator" back and forth in a circular motion as each movement serves to move the tally one notch.

When winding the film always watch the Indicator and turn very slowly when the head begins to revolve. When turning the Winding Key in preparation for the first picture, it will require quite an amount of winding to reel off the black paper which is necessary for protecting the film. After the first exposure turning three or four times will serve to move the indicator.

To Load with Plates.

Before using glass plates it is necessary to procure a dark-room, that is a room where there is no possibility of white light entering.

Light the ruby lamp, and open the box of plates, remembering that any light other than that from the ruby lantern will instantly ruin them. Draw out the slides of the plate holder insert a plate in each side, with the coated or dull side uppermost and replace the the slides with the word "exposed" on the inside.

In filling the holders be sure to put the plate in proper position. Push the lower edge well down against the spring in bottom of holder and see that the top is well down against the center piece. Cover any remaining plates before leaving the room.

The holder can be placed in position in bright light by opening the rear cover of the camera and removing the pressure board and "Back Frame." Insert the holder in position and see that it is well down so the rabbit fits to the camera, the back springs will serve to hold it in position and insure against danger of light. Remove the front slide of holder and everything is then in readiness for the first exposure.

Instantaneous Exposures.

The method of making snap shots with The $3\frac{1}{2} \times 3\frac{1}{2}$ Hawk-Eye, Junior, is very simple as the lens is always in focus.

Should the camera be the 4×5 size, observe carefully the following note:—

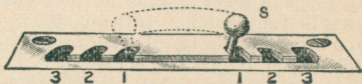
NOTE. — The method of making exposures with the 4×5 Junior is the same as the $3\frac{1}{2} \times 3\frac{1}{2}$, with these exceptions.

When making an instantaneous exposure the button at the right of the shutter spring should be pressed, which opens and closes the shutter, and allows the light to reach the sensitive surface of the film or plate.

For time exposures, press the button at the left, once to open the shutter, and when sufficient time has elapsed for the exposure, press it again to close.

Before making an exposure, push the focusing lever to mark on the index showing the number of estimated feet that the object to be taken is from the camera; or, if desired focus through the ground-glass, which is advisable when making time exposures.

When it is been decided as to the view or object to be photographed, set the shutter by moving the "Shutter Spring" over into one of



the opposite slots, as shown by dotted lines in the foregoing cut; should the shutter happen to be already set it will easily be detected as the arrow on the shutter always points to the side where the spring should be placed when preparing for an exposure.

There are three slots for the spring at each end to vary the speed of the shutter—No. 1 is the slow, No. 2 the medium and No. 3 the quick speed.

No set rules can be made as to the proper speed of the shutter, and to secure the very best results some judgment is necessary. An extremely distant view requires a shorter exposure than one near the camera, and the general tendency is to under-expose in taking faces or groups at short range, and to over-expose landscapes or marine views.

A good general rule is to always use the slow speed for objects at close range even though the light be strong, and the quick speed for long range in good light, or marine views, or objects moving rapidly. If the sun is hazy use No. 2 instead of No. 3. Do not try to photograph moving objects at less than 25 feet, and endeavor to catch them at an angle, or coming toward the camera. In photographing a tall building at close range and pointing the camera upward, the lines in the photo will be found very irregular on account of the top being a greater distance from the camera. When possible, you should obtain a position as near as you can to the horizontal line of the center.

The same rule applies to small objects, such as a dog, when the camera should be lowered to a level with the center of the object to be taken.

Always photograph from the sun, *never toward it*, that is the sun should be behind you and not shining upon the lens.

When ready for making the exposure, hold the camera steady against the body and as near level as possible, locate the object in the "Finder" and press the "Instantaneous Button" which releases the shutter and uncovers the lens for a fraction of a second, thereby making the impression upon the sensitive surface of the film. After making the exposure turn the "Winding Key" to the right until the mark on the "Indicator" reaches the pin and springs back again, which shows that the film is in position for the next exposure.

It is advisable to get in the habit of winding the film as soon as an exposure is made which will avoid the possibility of making two exposures on the same surface.

NOTE. — When using plates replace the slide with the side outward marked "exposed" and reverse the holder which

places another plate in position for the following exposure. In taking a holder from the camera always press backward slightly which will straighten the springs and allow it to be removed easily.

Good instantaneous pictures can be made when it is slightly cloudy or hazy. The best general results are obtained when strong bright sunlight is shining directly upon the object or view, with the exception of pictures of groups or still life subjects, where softness is desired which may be made to better advantage in light cloudy weather. If the sun is entirely obscured instantaneous exposures will develop more or less weak and thin, and a short time exposure is preferable.

Time Exposures.

In making time exposures some judgment must be used as to the length of time the lens should remain uncovered. This is governed by the amount of light upon the object to be photographed and varies at different times.

The following rules should be observed: — Place the camera upon a tripod, table or some firm support so there will be no danger of mov-

ing it during the time the exposure is made; center the object in the finder and set the shutter the same as for instantaneous exposures; press the "Time Button" which will open the shutter; when it is decided that sufficient time has elapsed for making the exposure, press the "Time Button" again which will close the shutter.

It is equally as important when making time exposures as snap shots that the light should be shining from behind the camera and in no way should its rays shine upon the lens. When making an interior where windows are so located that they are included in the picture always draw the shade.

The following estimate will be found of benefit to the beginner and the length of time to be given is figured on making exposures from 10 A. M. to 3 P. M.

Light finish and more than one window—

Bright sun,	. . .	4 seconds.
Dull	“ . . .	7 “
Cloudy,	. . . .	15 “
Dull,	. . . .	20 “

Light walls and one window—

Bright sun,	. . .	6 seconds.
Dull	“ . . .	10 “
Cloudy,	. . . .	18 “
Dull,	. . . .	30 “

Dark finish and more than one window—

Bright sun,	. . .	12 seconds.
Dull	“ . . .	20 “
Cloudy,	. . . .	40 “
Dull,	. . . .	60 “

Dark finish and one window—

Bright sun,	. . .	18 seconds.
Dull	“ . . .	30 “
Cloudy,	. . . .	50 “
Dull,	. . . .	1 min. 30 “

Time exposures in the open air should never be made unless the light be very weak and the sun entirely obscured. The shutter can hardly be worked too quickly, and with heavy clouds or deep shade not over two seconds at the longest.

Never try to make a time exposure while holding the camera in the hand, as it is impossible.

Flash Light Exposure.

The custom of making photographs at evening parties, dinners, etc., has now become very popular. A picture made on such occasions is a souvenir, as well as a novelty, and highly valued by all.

It is not necessary to even procure a flash lamp, or any apparatus, as the "Hub" powder is all that is required, and is supplied for 50 cents a box, containing material for 20 exposures. Many interiors can be photographed by this process that will be found very difficult during the day owing to lack of light or windows so located that it is impossible to darken them sufficiently.

The camera should be prepared the same as for time exposures, placed upon some stationary support. Locate the object in the finder and place the powder, removing from the box, on a small tin or saucer about 3 or 4 feet to one side and back of the camera so that the flash will not strike the lens which would ruin the picture.

A gas or candle flame back of the camera and 3 or 4 feet to one side opposite from the flash powder, will improve the negative as it will reduce the shadows.

When everything is in readiness touch the "Time Button" which opens the shutter, then ignite by inserting one end of the fuse provided into the powder, touching a match or light to the other end. A reflector placed behind the powder will increase the strength of the picture.

As the fuse burns, there will be a bright flash which serves to make the impression; then press the "Time Button" again to close the shutter. Wind the film until it shows that it is ready for another exposure.

In making flash lights, one box will be found a sufficient quantity in all rooms of ordinary size, but in making exposures where the object is over 15 feet distant, double the quantity.

Removing the film.

The danger of light reaching the sensitive surface of the film when unloading, is the same as at the loading, and to insure against any possibility of fogging the edges, it had best be done in a subdued light.

When the "Indicator" fails to register an exposure, it signifies that the last exposure has been made; continue winding until

the reel comes to a stop. Open the camera, the same as when preparing to load, and detach the paper end from the empty spool, at the same time holding the thumb of the left hand against the roll to prevent the paper from loosening; turn the "Winding Key" until all the paper is on the spool and fasten the end securely with any convenient sticking substance.

Turn the "Winding Key" to the left which will disengage it and allow the spindle that holds the spool in place to be withdrawn. Take out the roll and remove the brass ratchet from the end, transfer the empty spool to the opposite side after adjusting the ratchet on the end similar to the one removed, and insert in the camera with ratchet farthest from the "Winding Key," replace the spindle and turn to the right and the camera is ready for reloading.

It can always be determined which rolls have been exposed, by the index hand not appearing after the film has been re-wound and taken from the camera.

After the exposures have been made and the film removed, the negatives must be made and the pictures finished.

We recommend that the Amateur do the work complete, as it will be found very interesting, and the process is very simple.

When sending film to us for finishing, pack securely and mark as follows:—

THE BLAIR CAMERA CO.,
22 RANDOLPH STREET, BOSTON, MASS.

Do not neglect to put your own name and address upon the wrapper; also, write us under separate cover, stating what you are sending, and advising if you wish the film developed, developed and printed, or developed, printed and mounted, also number of extra prints, if any. For price list of this work, see last page.

Should you decide to do the finishing, we provide an outfit especially adapted for the Hawk-Eye Junior, containing all the articles needed, and the chemicals already compounded, ready for use.

The 3½ x 3½ Developing Outfit contains	
2 Trays,	\$.50
2 Hub Developing Powders, . . . . .	.20
1 Lantern, . . . . .	.60
1 lb. Hypo, . . . . .	.06
	<hr/>

Price complete, \$1.00.

\$1.36

The 3½ x 3½ Printing Outfit contains

2 Trays,	\$.50
1 Printing Frame, . . . . .	.25
1 Printing Frame Glass, . . . . .	.05
1 4-oz. Toning Solution, . . . . .	.30
1 dozen 3½ x 3½ Aristotype Jr. Printing Paper, . . . . .	.15
1 dozen 3½ x 3½ Embossed Mounts, . . . . .	.15

Price complete, \$1.00. \$1.50

The 4 x 5 Developing Outfit contains

1 Hub Lantern,	\$.75
2 Hub Developing Powders, . . . . .	.20
2 4 x 5 Trays, . . . . .	.50
1 lb. Hypo, . . . . .	.06

Price complete, \$1.25. \$1.51

The 4 x 5 Printing Outfit contains

2 4 x 5 Trays,	\$.50
1 4 x 5 Printing Frame, . . . . .	.25
1 Printing Frame Glass, . . . . .	.05
1 dozen 4 x 5 Aristotype Jr. Print- ing Paper, . . . . .	.25
1 8-oz. Toning Solution, . . . . .	.50
1 dozen 4 x 5 Embossed Mounts, . . . . .	.20

Price complete, \$1.25. \$1.75

The Amateur after a little experience will be able to handle a number of exposures at a time in the same solutions. The developer can be used repeatedly by adding a quantity of new stock, but on no condition should it be poured back with the new, but kept separately in another bottle until ready for use.

Developing the film.

Secure a room or closet in which no white light can enter. It is imperative that not the least ray should enter, for should the sensitive surface of the film be lighted for a fraction of a second it would be completely ruined. Light the ruby lantern which produces a subdued light that will not injure the film, unless held very closely.

Arrange two trays in a position where they can be easily found, and pour enough developer in one tray so that it will flow over the film,

The Solution supplied in the outfit for this purpose is Metol, which has no equal for use with this material. The formula is as follows:—

60	gr.	.	.	.	.	Metol.
1	oz.	.	.	.	.	Sulphite Soda.
1	"	.	.	.	.	Carbonate Soda.
40	"	.	.	.	.	Water.

Place the fixing bath in the other tray, composed of 4 oz. Water, and 3 oz. Hypo.

Unroll the film slowly, being very careful not to touch the emulsion or coated side, and cut with shears as designated by the perforations. Immerse a section of the film in the developer, dull side down, and be careful that the developer covers the film entirely. When first placed in the tray it will have a tendency to curl slightly, but as soon as wet thoroughly will lay flat beneath the surface of the solution.

Rock the tray gently which will prevent air bubbles and also allow the development to continue evenly; dark spots will soon appear which are termed "the lights" and soon the objects will be discernible. The progress of development can be ascertained by removing the negative occasionally from the developer and holding it in range of the ruby light.

When sufficient density has been attained, wash the negative thoroughly in water and place in the Hypo bath until the light appearance has disappeared; this usually requires about 5 or 10 minutes, then remove and wash thoroughly in clear cold water, with at least 5 or 6 changes. This is very important as all traces of the Hypo must be removed or the stains will appear after

drying and ruin the negative. After washing, place the negative in a Soaking solution for about 5 minutes, composed of $\frac{1}{2}$ oz. Glycerine to 20 oz. Water. Remove and pin to a flat surface by the four corners with emulsion or dull side out, with no further washing, to dry.

By following the foregoing directions, good results should be obtained.

When developing plates the process is practically the same, only the plate should be placed in the developing tray coated or dull side up, and it is not necessary to use a soaking solution before drying.

The Common Causes of failures.

Under-exposures are caused by making instantaneous shots in the shade, indoors, early or late in the day, or when the light is not sufficiently strong to fully impress the object or view upon the sensitive surface of the film.

An under-exposure is easily detected in development by the image appearing very slowly, while it is impossible to obtain great detail the negative can be improved by adding a quantity of fresh developer.

Over-exposures are usually caused by using the slow speed when the light is very strong, or too long a time exposure.

An over-timed exposure is easily detected by the plate darkening evenly as soon as placed in the developer with no contrast or deep shadows. The negative can be improved by weakening the developer with water or adding a small quantity of Bromide of Potassium; should the Bromide be used the developer is ruined for other negatives, unless they are known to be over-exposed.

Under-development. — An under-developed negative is very thin and full of detail, the difference can readily be seen from one under exposed.

An under-developed negative can be improved to quite an extent by intensifying as follows:— Place in a solution of

$\frac{1}{2}$ oz.	.	Bi-Chloride of Mercury.
$\frac{1}{2}$ "	.	Bromide of Potassium.
16 "	.	Water.

Let the negative remain until it evenly whitens, then wash and apply a solution of 1 oz. Sulphite Soda, to 1 oz. Water. The negative will then darken when it should be thoroughly washed and placed to dry.

Over-Development is caused by allowing the negative to remain in the developer longer than it should.

An over-developed negative will appear very strong and intense, and requires a long time to print.

For reducing use the following formula:—

No. 1. $\frac{1}{2}$ oz. Red Prussiate of Potash.
 10 “ Water.

No. 2. $\frac{1}{2}$ oz. Hypo-Sulphite of Soda.
 10 “ Water.

Mix No. 1 and 2, and allow the negative to remain in the above solution until sufficiently reduced. Wash and place to dry.

Fogged Negatives are caused by leakage of the dark-room, or by holding the negative too long in the ruby light. This causes the film to darken soon after placing in the developer.

Air Bubbles beneath the film while developing or fixing cause spots, and streaks are produced by allowing a part of the material to remain uncovered in some of the solutions.

Printing, Toning and Mounting.

Printing.—There are a number of different kinds of printing paper on the market. We recommend Aristotype, Jr., which is easily handled and produces good results.

All paper is not handled the same, and the following directions apply to the use of the above mentioned material only. When printing from a film negative, open the printing frame and place the negative with the smooth or glossy side against the glass, place a piece of the printing paper coated side down against the negative and replace the back of the frame and secure. This should be done in a subdued light as the printing paper will become inferior if exposed to strong light.

The frame back is secured by two brass springs which will permit the operator to uncover a part of the print at a time to watch the progress of printing. When the back has been secured, place in the strongest light obtainable, glass side toward the sun, until the image has been sufficiently impressed upon the paper. Watch the progress of printing by opening one end of the back occasionally, first removing the frame where the light is not strong, and never

open but one end at a time, which will prevent the paper from shifting which would ruin the print.

When printed a trifle darker than is desired for the finished print, remove and place in a box or book so the light will not reach it until all the prints are made, and everything ready for Toning.

First Washing.—Before placing the prints in the Toning bath they must be washed in at least five or six changes of water; in Summer use water of natural temperature, in Winter use only enough warm to give comfort to the hands.

To prevent the prints from curling use but a small amount of water in the tray, barely enough to cover the bottom, place the prints face down one at a time and on top of one another. They should not be placed in a regular pile for this permits of the edges curling over each other, but so placed to cover the entire bottom of the tray overlapping each other. The first print should stick flatly and damply to the bottom of the tray the next one to the first, and so on until all are piled in an irregular compact and damp mass, with but little more water than the prints will absorb.

After all the prints are in, incline the tray on end to secure perfect drainage and press the prints down with the flat of the hand allowing the water to drain out. Keep the tray so inclined for two or three minutes and the prints pressed down in a compact flat mass. After this plenty of water can be used for washing and there will be no bother on account of curling. The prints having been thoroughly washed they are ready for Toning.

Toning.—The Toning solution should be poured in a tray of sufficient quantity to cover a number of prints, place the prints face down; five or six can be safely toned at one time if kept in motion and not allowed to remain for any length of time in contact with each other. When a satisfactory tone is reached, remove the print and place in water which will arrest the progress of toning.

Fixing. — Transfer the prints to a bath of 4 oz. Hypo, to 16 oz. Water. Have plenty of the bath to cover the prints and allow them to remain for about fifteen minutes when they are ready for final washing.

Final Washing. — It is the frequent and complete change of water that washes the Hypo from a print, not continuous soaking. One

hour in running water that changes completely every few minutes is sufficient, or seven or eight changes of water if prints are washed by hand. Place between blotters to dry, if they are not to be mounted.

Mounting.—When mounting Aristo prints upon cards it should be done before the prints are dry, as they will then lay more smoothly. We recommend prepared mounting paste although very satisfactory work can be done with a heavy mixture of starch and water.

After mounting lay prints out separately until dry.

Burnishing.—The finish produced with Aristo, Jr., is such that it is not essentially necessary to use a burnisher, although by so doing it will be found quite an improvement in the finish.

The highest finish is produced by a very hot burnisher, do not use any lubricator containing alcohol. Use pure castile soap, rubbed on with flannel cloth or tuft of cotton if any is necessary.

Glaze Process.—Procure a Ferrottype plate and rub it with a Solution of Paraffine the size of a pea dissolved in two ounces Benzole. Rub

on with flannel cloth, this prevents the print from sticking. Take prints while wet and squeegee on plate rubbing down smoothly, allow to dry and peel off with a pen knife.



Price List.

	3½ x 3½	4 x 5
The Tourist Hawk-Eye	\$9 00	\$15 00
Holder for Glass Plates	75	1 00
Leather Carrying Case	1 50	2 00
Folding Tripod,		1 75
Sunlight Film, 12 exposures	60	85
Glass Dry Plates, per doz.		65
Developing Outfit	1 00	1 25
Printing Outfit	1 00	1 25
Developing only	06	08
Developing and Printing	11	13
Printing only	08	08
Mounting extra	02	02

The BLAIR CAMERA CO.,

Manufacturers,

22 Randolph Street,

Boston, Mass.

❖ ❖ ❖ Price List. ❖ ❖ ❖

	3½ x 3½	4 x 5
The Hawk-Eye Jr.,	\$8 00	\$15 00
Holder for Glass Plates,	75	1 00
Leather Carrying Case,	1 50	2 50
Folding Tripod,		1 75
Sunlight Film, 12 exposures,	60	85
" " 18 " 		1 25
" " 25 " 	1 20	
Glass Dry Plates, per doz,	35	65
Developing Outfit,	1 00	1 25
Printing Outfit,	1 00	1 25
Developing only,	06	08
" and Printing,	11	13
Printing only,	08	08
Mounting extra,	02	02

The BLAIR CAMERA CO., Manufacturers,
22 Randolph Street, Boston, Mass.