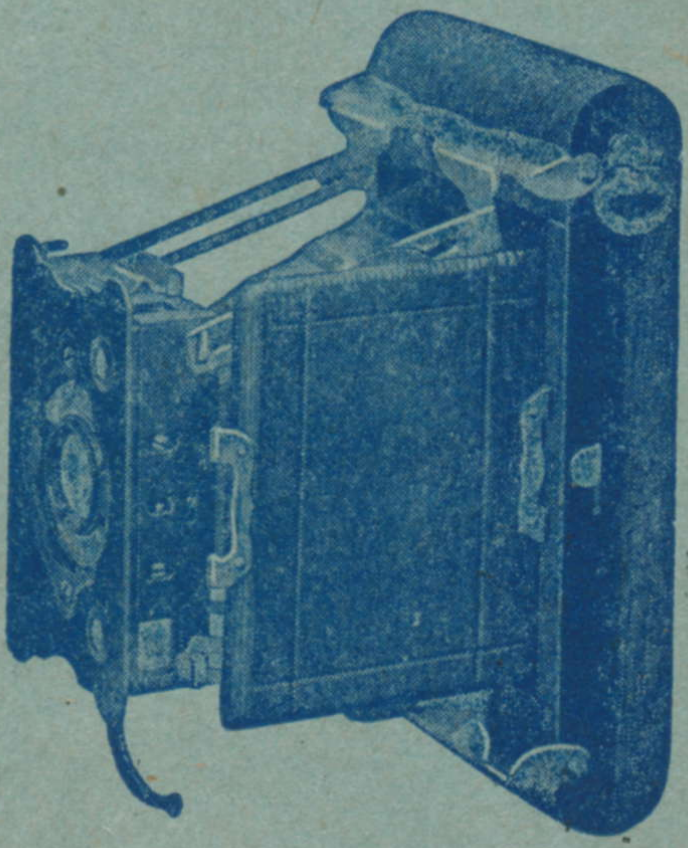
Successful Picture Making

WITH THE

No. 1 SENECA JUNIOR



PRICE, 10 CENTS

Seneca Camera Mfg. Company
ROCHESTER, N. Y., U. S. A.

Contents

Before Loading

Before attempting to take pictures with the No. 1 SENECA Junior Camera, read these pages and learn exactly how to operate its many parts correctly. Familiarize yourself with the lens and shutter, understanding the significance and exploring the operation of the several working parts.

Although the camera may be loaded in direct sunshine, it is safer to perform this part in subdued light. Sufficient light will pass through the lens in a small fraction of a second to change the sensitized surface. In the same amount of time a ray of sunshine may penetrate the loosened wrapping and destroy the result of much patient effort to produce pictures you will afterwards cherish.

Again we say it,—read the directions carefully and investigate the use of every part before the film is loaded in the camera. Finally, see that the shutter is closed before loading.

Warning

While the Camera is loaded, do not expose the lens to a strong light until the bellows is extended.

PART I

Loading the Camera

I—Push the slide catch upon either side of the camera as far as possible away from the end upon which the winding key is placed. Gently loosen the leather covered back and lift off. See Fig. I.

Fig. I

II—The empty spool in the film chamber at the end of the camera must be placed in the film chamber next to the winding key.

III—Turn out the winding key back upon its hinge and insert the empty spool which was removed from the film chamber at the

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other end. Turn the winding key until it slips back into position. See Fig. II.

Fig. II

IV—Place the camera face down upon a table before you and drop into place the film cartridge to be exposed. Be sure that the number of the film (240) is upon the right side. See Fig. III.

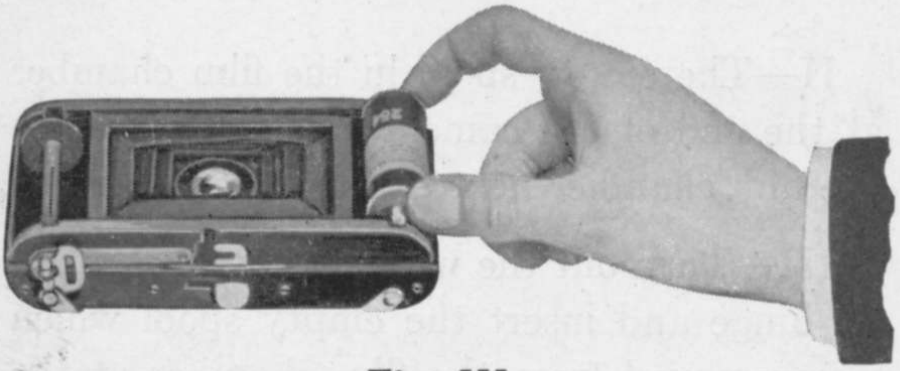


Fig. III

V—Break the gummed sticker and extend the free end of the black paper through the slot of the empty spool, making very sure that the film has been started straight. Failure to take this precaution may cause the film to roll over the spool flanges and consequently to stick inside the camera. Now turn the winding key two or three times to bind the paper. See Fig. IV.

Fig. IV

VI—Replace the back and push the slide catches as far as possible toward the winding key. Be sure that the back is attached securely.

VII—Turn the winding key until a hand appears in the ruby window. (See Fig. V).

A few more turns will bring No. 1 into the center of the window, at which time the film is in position for making the first picture.

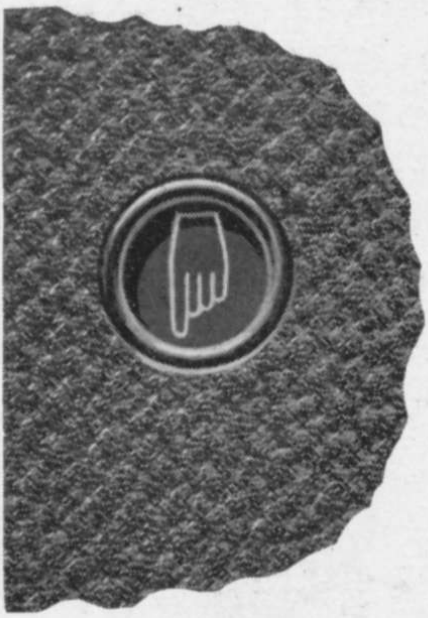


Fig. V

Warning

While the camera is loaded, do not expose the lens to a strong light until the bellows is extended.

PART II

Making the Exposure

I—With the front of the camera facing you, winding key at base of left thumb, place the nail of right index finger under catch to the right and open the protecting cover. With the thumb and forefinger grasp the front of the camera in the pit at either end and pull it forward until it locks. See Fig. VI.

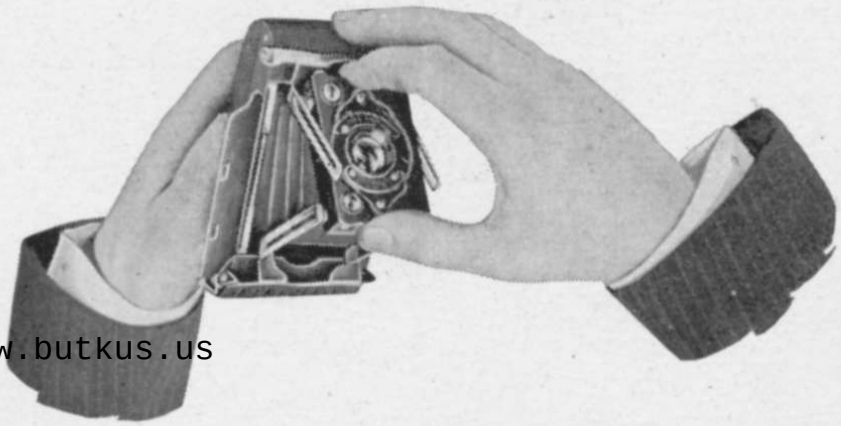


Fig. VI

II—The lens is now focused upon objects twenty-five feet distant. Hold the camera horizontally with the finder facing upward. By pressing down upon the small catch halfway along the right side of the front, the flat strip of metal immediately beneath it may be pressed in. See Fig. VII. A similar part is upon the left side of the front. While press-

ing down upon the small catch previously mentioned, move the strip of metal back and forth. When the focusing lever has been slid to the extreme right, objects ten feet away are in focus; at the extreme left, objects one hundred or more feet away are in focus. Please bear in mind that the camera is always

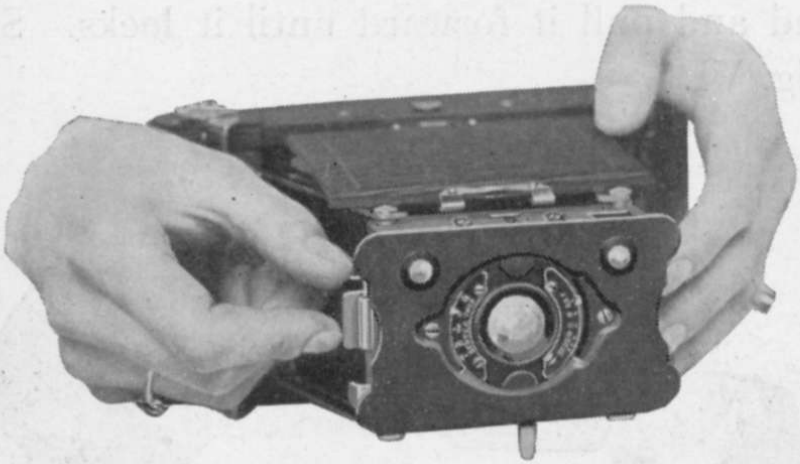


Fig. VII

ready to take pictures of objects twenty-five feet away when the bellows is extended.

III—To take a vertical picture, aim the camera at the object and locate the image in the finder. Always look directly into the finder from directly above it and not at an angle. The picture will include those objects which appear in the finder. See Fig. VIII.

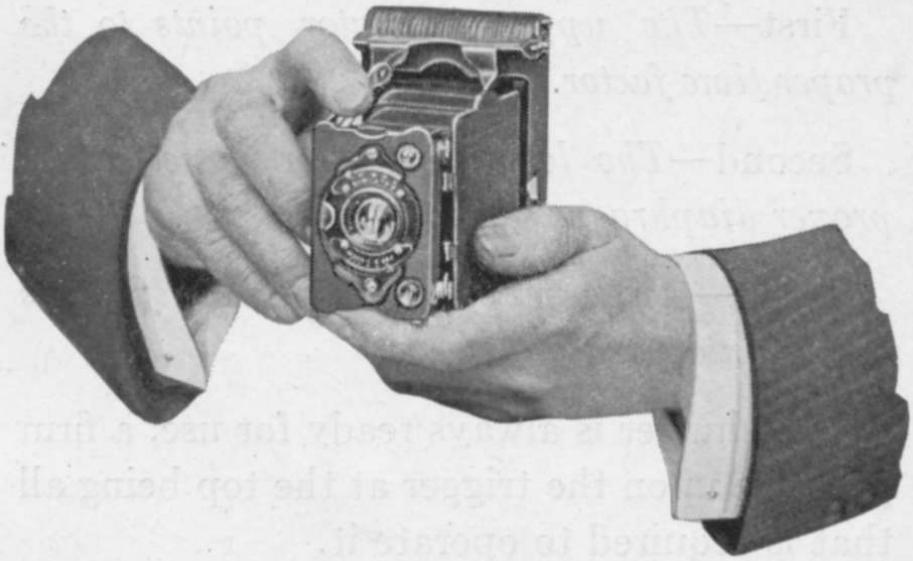


Fig. VIII

IV—For a horizontal picture, turn the camera over to the side (see Fig. IX) and locate the object in the finder on the longer side of the front.

Fig. IX

V—Before attempting to make an exposure, get acquainted with the use and operation of every part of the shutter. Be sure that

First—*The upper indicator points to the proper time factor.*

Second—*The lower indicator is set at the proper diaphragm stop.*

Third—*An unexposed section of film is turned into position.*

The shutter is always ready for use, a firm pressure upon the trigger at the top being all that is required to operate it.

SNAP SHOTS

Exposures at the fractional speeds can be made when the camera is held in the hand. The 1/100, 1/50 and 1/25 denote the approximate fractions of a second during which light is allowed to pass through the shutter to the film. At 1/100, "snap" a speeding automobile at a distance; at 1/50, include children at play or a man running swiftly; at 1/25, take pictures of cattle grazing in a pasture or of a man walking slowly.

TIME EXPOSURES

At T the shutter remains open after the first pressure until a second pressure closes it. At B the shutter stays open until the pressure is released. These two factors are used when light conditions are so poor that it is necessary to allow an exposure longer

than 1/25th of a second. The subject must be stationary, since the slightest motion will cause a blur. It is essential that the camera be placed upon some rigid base. A support is provided for both vertical (see Fig. X) and horizontal (see Fig. XI) pictures.

Fig. X

Fig. XI

Time Needed for Interior Exposures

The following table is figured for exposures made between the hours of 10:00 A. M. and 3:00 P. M., using diaphragm stop 16. If

stop 8 is used give only one-half the time. If stop 128 is used, give eight times the exposure. The smaller the stop, the sharper the picture. The 16 stop gives the best results for interiors.

White Walls and More than One Window

Bright sunlight outside	4 seconds
Hazy sun	10 "
Cloudy bright	20 "
Cloudy dull	40 "

White Walls and Only One Window

Bright sunlight outside	6 seconds
Hazy sun	15 "
Cloudy bright	30 "
Cloudy dull	60 "

Medium Colored Walls and Hangings and More than One Window

Bright sunlight outside	8 seconds
Hazy sun	20 "
Cloudy bright	40 "
Cloudy dull	80 "

Medium Colored Walls and Hangings and Only One Window

Bright sunlight outside	12 seconds
Hazy sun	30 "
Cloudy bright	60 "
Cloudy dull	120 "

Dark Colored Walls and Hangings and More than One Window

Bright sunlight outside	20 seconds
Hazy sun	40 "
Cloudy bright	80 "
Cloudy dull	2 minutes, 40 "

Dark Colored Walls and Hangings and Only One Window

Bright sunlight outside..	40 seconds
Hazy sun.....	80 "
Cloudy bright 2 minutes	40 "
Cloudy dull.... 5 "	20 "

VI—If the lens is an anastigmat, the markings beneath it will be *f* 4.5, 6.3, 8, 11, 16, 22, 32; *f* 6.3, 8, 11, 16, 22, 32 or *f* 7.5, 11, 16, 22, 32. Set the shutter at T, open it and watch the relative size of the diaphragm stops while the lower indicator is moved. When the indicator is at 8, the diameter of that opening is very close to 1/8 of the distance from the diaphragm to the film; at 16, approximately 1/16 of the distance from the diaphragm to the film, etc. This is the basic principle of the *f* system. Since the diameter of *f* 8 is twice that of *f* 16 and the area of a circle varies as the square of the diameter, four times as much light will pass through the *f* 8 opening in a given interval of time as will pass through the *f* 16 opening. On that account, the lens working at *f*8 is four times as fast as when working at *f*16. However, the diameter of the *f*11 opening is such that the area and accordingly the speed are one-half that of the *f*8 opening or twice that of the *f*16 opening.

With the greater speed possible by the use of the anastigmat lens, the lens loses

proportionately in its ability to image clearly objects both near and far from it. This inability of fast lenses to have great "depth of focus" is not a new discovery nor a variable quantity, but is the result of a mathematical ratio which is as rigid as "two times two make four." Speed is gained only at a loss in depth of focus.

Every lens has a focal length, i. e.—the distance at which it must be placed from the film to produce sharp pictures. As lenses of the same speed have shorter and shorter focal lengths, their depths of focus become correspondingly greater and greater. This is why it is necessary to gauge accurately the distances upon larger cameras but is not necessary to be so exact upon the No. 1 SENECA Junior.

If the lens is not an anastigmat, it is marked 8, 16, 32, 64. This Uniform System (U. S.) was designed to show more clearly the relation between the speeds of the lens at each of the various stops, which ratio is shown by the numerical value. For instance, U. S. 8 is only twice as fast as U. S. 16. With the No. 1 SENECA Junior, all objects six feet or more distant are sharply in focus.

Anastigmat Lenses are marked according to the *f* System, other lenses by the U. S. System. The table shows the relation between the most commonly used stops of both systems:

U. S.		8	16	32	64
f	8	11	16	22	32

Keep this relation clearly in mind in order that the indicators may be intelligently set for each exposure.

As a basis to work from, set the indicator at 16 for pictures of objects in direct sunlight if taken in the middle of the day. Use the U. S. 8 or *f*11 stop for objects in direct sunlight earlier in the morning or later in the afternoon. When the light seems bright, 1/50 is satisfactory, but otherwise use 1/25. The anastigmat lens may be used with the largest opening for snapshot work under unfavorable conditions, but the lens which is not an anastigmat cannot get the pictures under such conditions except by time exposure. Do not adhere too closely to these directions, they are only general suggestions for use in making the first exposures. The user's experience will be the best guide.

VII—To close the camera, hold it in the left hand, facing you, and tilt until door swings back from braces: See Fig. XII. Then grasp the front of the camera with finger and thumb of right hand in pits and press gently on either end until the front of the camera releases itself from the side arm catches and falls into position.

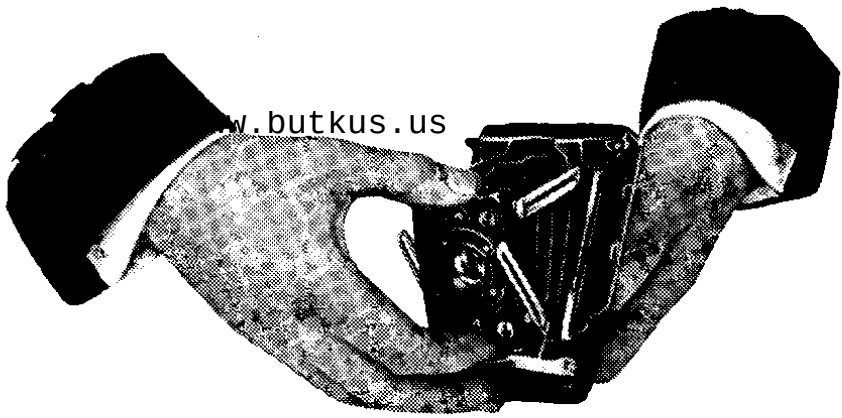


Fig. XII

PART III

Removing the Film

I—After making the six exposures, turn the winding key until all the paper is wrapped around the exposed film.

II—Remove the back as before and take out the exposed roll.

III—Use the gummed sticker in the now empty spool to keep the exposed film tightly rolled.

IV—Do not twist the film on the spool in order to tighten it; it is likely to rub the emulsion and consequently to spoil your pictures.

V—Reload and replace the back upon the camera in readiness for use upon the next occasion.

VI—In case you are developing your own pictures, the film is ready for the dark room. If you are having your pictures developed and printed, ask your dealer to show how you may secure more pleasure from the time spent in photographic work by doing your own finishing.

PART IV

Developing the Film

These directions for developing are not to be regarded as absolute, but only as general hints from which the amateur should deviate at the first moment he obtains more pleasing results. Remember that the value of any rule in photography is gauged by the excellence or mediocrity of the result secured by following that rule. If you find another way of getting a better or even the same result, use the new way at once, you are widening your acquaintance in picture making.

I—Dissolve the contents of the Seneca M. Q. Tube (both chemicals) in ten ounces of water and place in a tray at your left.

II—In the center place a tray of clear cool water for rinsing.

III—Dissolve thoroughly the acid hypo according to the directions upon the box, and set the tray to the right.

IV—Exclude all rays of white light from the room and let the ruby light be at least one and one-half feet from the developing tray.

Developing

I—Unroll the film and detach the entire strip from the protecting black paper.

II—With an end of the strip in each hand, pass it continuously through the developer. In about one minute the blank spaces between the pictures will begin to show. By two minutes the images will show somewhat clearly.

III—Continue the development for five or ten minutes until the contrast between the light and dark parts of the negative has become very distinct or the image begins to show on the back of the film. If some of the negatives, as you hold them between your eye and the ruby light, are darker than others, they have been exposed for a longer time, but this difference will be easily taken care of in the printing. It is only necessary to watch the degree of contrast.

Rinsing

I—After developing sufficiently, rinse three or four times in the middle tray of water before you.

II—If desired, the exposures may be cut apart and fixed separately.

Fixing

I—Pass the negatives face down through the solution two or three times before completely submerging them in the hypo solution.

II—If the negatives have not been cut apart, fold the strip several times without allowing it to crack at the ends. Press these down so that the solution will reach all parts of the film. Two or three minutes after the last trace of milkiness has disappeared, it is safe to admit white light to the room. Allow the negatives to remain in the hypo solution for ten minutes longer.

III—Remove the negatives to running water and allow them to remain there for an hour. In case running water is not available, change the water five times the first ten minutes, moving the films occasionally, and then allow them to soak for an hour. If desired, the water may be changed four or five times during a half-hour of washing. It is essential that the negatives be thoroughly washed.

IV—Suspend the wet negatives in such a way that neither side will come in contact with anything while drying. The Defender Film Clip will be found to be very convenient for this purpose as well as for handling the films while developing.

Defects in Negatives

Veiled Whites or Fog

Film handled too close to ruby light.

Exposed to rays of white light.

Muddy Effects

Exhausted developer.

Forcing under-exposed negatives in development.

Too warm a developing solution.

Irregular Light Spots

Uneven development due to failure to keep all parts of the negative evenly moistened during development.

Uneven immersion in the developing solution.

Over-exposure.

Air bells upon the film during development.

Milky Spots on Negatives

Failure to keep negatives entirely covered by fixing bath or insufficient time for fixing.

Don'ts

Don't start until the chemicals are thoroughly dissolved.

Don't use a tray for developing if it has previously been used for hypo solution or final washing.

Don't use chemicals after their strength is gone. A hypo solution is exhausted when air bells settle around the edge of the tray and remain there. When the developing solution loses its strength, it turns brown.

Don't allow one ray of white light to enter the room.

Don't hold the strip too close to the ruby lamp, it may cause fog.

Don't let a trace of hypo reach the developer, a drop may spoil the whole solution. Wipe your hands upon a clean towel each time after taking them from the hypo solution.

Don't remove the negatives from the hypo until they are thoroughly fixed. Too long is better than too short.

Don't blame the materials, read the directions over again or ask your dealer.

PART V

Making the Prints

I—Dissolve the contents of the Seneca M. Q. Tube (both chemicals) thoroughly with six ounces of water at about 70° Fahr. and place in the tray at the left.

II—In the center have a tray of clear cool water for rinsing the prints after developing.

III—Dissolve thoroughly the acid hypo according to the directions upon the box and set the tray to the right.

IV—Darken the room to semi-darkness. It is unnecessary to have the room completely dark since Argo Paper can be handled safely ten feet from an ordinary gas jet.

Developing

I—Place the smooth side of the negative against the glass of the printing frame, allowing the dull or picture side of the film to face up.

II—Take one sheet of the developing paper from its light proof wrapping and lay it concave side down upon the negative. This allows the dull surface of the negative to come into contact with the concave side of the paper.

For a negative of normal contrast use Normal Argo to obtain best results. When the negative is weak or thin, use Hard Argo. If the dark places (the high lights of the negative) are very dense and the contrast between the light and dark portions very marked, double the amount of water and use Soft Argo. The time of exposure and development will be somewhat lengthened. It is very important that paper with the correct degree of contrast be used with each class of negative. A soft or weak paper for instance with a contrasty negative will produce the same results as a contrasty paper with a weak negative. The Normal Argo meets the average requirements of an amateur more closely than any other degree of contrast.

III—Clamp the back of the printing frame into place and expose to artificial light for several seconds.

With an ordinary gas light and a negative of average density, expose Argo Paper about eight seconds—counting one hundred, two hundred, etc.

IV—After exposure to the bright light, hide the exposed paper until the room has been darkened enough to permit its being handled safely again. Remove the paper from the frame and immerse it in the developer with a quick sidewise motion so that the solution reaches all parts of the paper at approximately the same time. The room may now be lighted again to enable the operator to follow the developing more closely.

V—Leave the paper in the developer until the picture has come up to the right shades of black and white. The picture will begin to appear in about six seconds.

If the shadows are light or foggy and appear slowly, the paper has not been exposed long enough. If on the other hand the shadows are very intense and come up quickly, the exposure has been too long. Before making any exposure, cut a sheet of paper into strips and make trial exposures. You will soon find what exposure gives the best results. Not only will this save a considerable amount of paper, but it will enable you to obtain pleasing results more quickly.

Rinsing

I—At this point take the print from the developer quickly and rinse it in the middle tray.

Fixing

I—Submerge the print in the hypo solution and allow it to remain for fifteen minutes. See that the prints do not become matted, since in that case the hypo solution will not fix them evenly.

II—Wash the prints in running water for an hour, taking care again that they do not become matted. If running water is not available, change the water ten or twelve times during a half hour. Be sure that the prints are thoroughly washed.

III—Place the prints face down on either stretched cheese cloth or a blotter. The time necessary for drying may be shortened by first laying them upon a piece of clean glass and pressing the surplus water out. Then dry them upon cheese cloth or blotters as before.

Defects in Prints

Foggy Whites

Paper handled in too strong a light.

Paper too old.

Muddy Effects

Forcing development of under exposed prints.

Exhausted developer.

Irregular Light Spots

Uneven development due to failure to keep print fully submerged during development or to immerse print evenly.

Over exposure to light.

Stains

Over development.

Forced development.

Chemically dirty dishes or hands.

Failure to fix a sufficient length of time.

Round White Spots in Clusters

Air bells upon the print after being immersed in developer. Rub the print lightly with the finger to scatter them.

Oval Dark Spots in Clusters

Air bells upon the print after being immersed in the fixing bath face downward. Immerse them face upward and move about to displace the bubbles.

Don'ts

Don't start until the chemicals are thoroughly dissolved.

Don't use a tray for developing if it has been used for pyro developer, hypo solution or final washing.

Don't use chemicals after their strength is gone. A hypo solution is exhausted when air bells settle around the edge of the tray and remain there. When the developing solution loses its strength, it turns brown.

Don't have the lights too bright while the print is in the developer, it may cause fog.

Don't fix the prints too long, it has a tendency to turn them brown.

Don't let a trace of hypo reach the developer, one drop may spoil the whole solution. Have a clean towel handy after taking the hands from the fixing bath.

Don't blame the materials if your first results are not as good as you expected, read the directions over again or ask your dealer.

PART VI

Greater Possibilities

The popularity of the No. 1 SENECA Junior has to a great extent been due to the low expense of its upkeep and the convenience of carrying it about. For the vacationist, hunter, soldier or whoever must travel with a minimum of baggage, its all-around advantages are unequalled.

For the lover of pictures for pictures' sake, to whom the size of the machine is not a consideration, the post card size is still the favorite. Since the angle of view covered by the lens is approximately the same on all cameras, the size of an object will be twice the height on a 3¼x5½ picture that it will be on a 2¼x3¼ picture. The greater size allows more objects to be visible to the eye, or, as we photographers express it, gives more details.

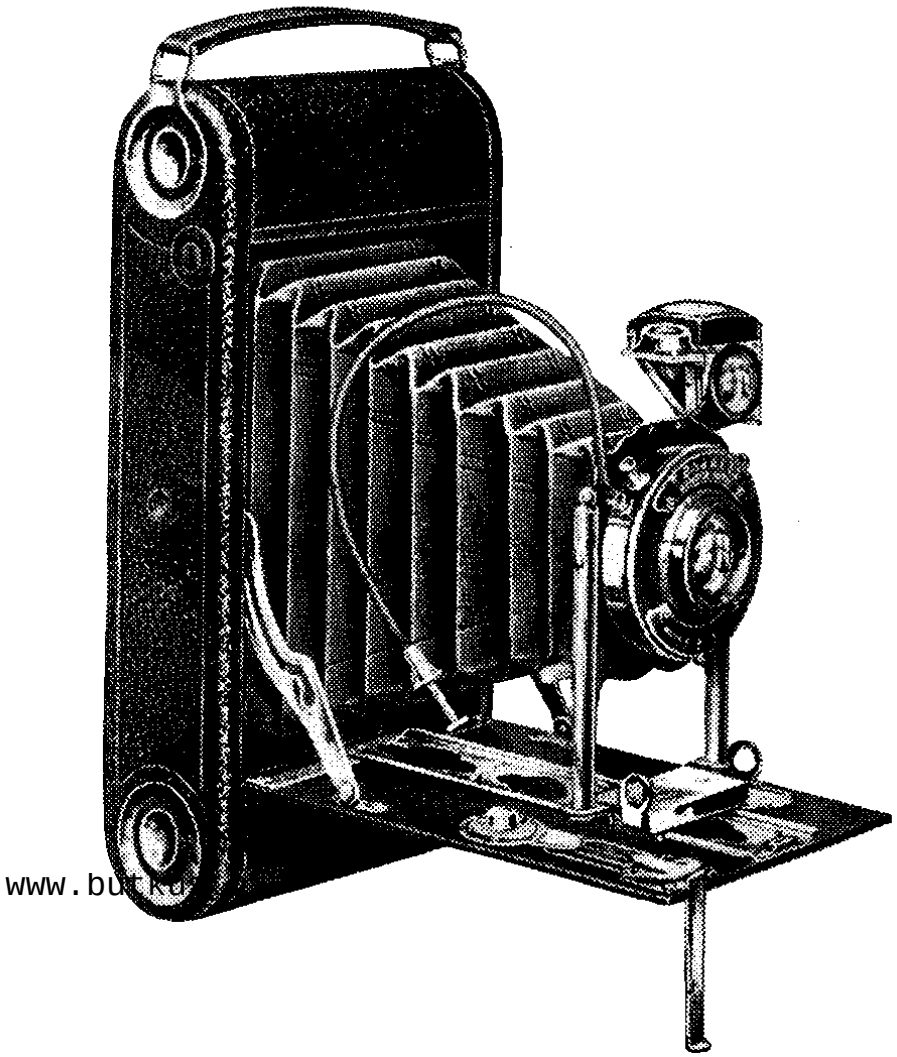
When the lens gives a wealth of details in the corners of the picture, it is said to have great covering power. When the lens makes this detail so clear cut that an enlargement many times its original size is clear and not a bit "blurry," it is said to give definition. Covering power and definition are the two most important qualities of a picture and characteristics of a picture by which the

quality of the lens is determined. However, the light conditions under which the picture may be taken at snapshot must be considered as well as the quality of picture taken. The less the intensity of light necessary, the greater the speed of the lens is said to be.

A careful amateur always inspects the lens upon the machine which he contemplates purchasing. It is quite probable that his selection will be one of the Anastigmat type, since that offers the advantages of perfect covering power and microscopic definition with speed to spare. These three qualities usually go hand in hand, the determining factor being speed. The Seneca Anastigmat *f* 7.5 Lens at its greatest aperture gives all in the way of definition and covering power that can be secured. Its maximum speed, slightly faster than the average, allows snapshots to be made successfully in light shade.

When fitted in a Victo Shutter allowing fractional speeds of 1/10, 1/25, 1/50 and 1/100 seconds besides time and bulb exposures, this lens equipment upon the No. 3A Roll Film Seneca Camera is an unusual value. For those who desire a greater range of shutter speeds, the Autic Shutter permits fractional speeds of 1, 1/2, 1/5, 1/25, 1/50 and 1/100 seconds besides the usual time and bulb exposures.

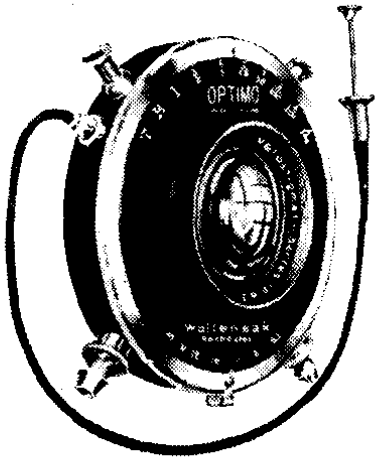
The extreme speed reached upon roll film cameras of this type and size today is *f* 6.3, that of the Seneca Extra Rapid Anastigmat Lens. This extreme speed, sixty per cent faster than the average, demands absolute



No. 3A *f*7:5 Roll Film Seneca

accuracy in focusing since speed is gained only at a sacrifice in depth of focus but it allows snapshots under unfavorable light conditions when a slower lens would fail.

To be sure a slower lens would get the picture by making a time exposure, providing the object would wait to be taken. The covering power and definition are fully up to the Anastigmat standard. The Optimo Shutter



Optimo Shutter

is capable of the extremely fast exposure of 1/300 second besides all the slower speeds of the Autic Shutter.

The camera upon which these lenses are fitted is one to be proud of. Its value is measured by more than its exterior covering of genuine leather. To the photographer of architectural subjects, the rising and falling front will allow exposures from a wide variety of positions without the fear of distortion. The spirit level assures the uncertain user that his pictures will be exactly vertical or horizontal, as he wants them—no more homes or buildings on an angle like the Leaning Tower of Pisa. It is distinctly a Seneca idea.

Make the Roll Film Seneca with an Anastigmat Lens your choice; your success with the Junior you now have is our best recommendation.

PRICE LIST

Six-Three Roll Film Seneca Camera, No. 3A, 3¼x5½, fitted with Anastigmat *f*:6.3 Lens, and Optimo Shutter	$47.00
Six-Three Roll Film Seneca Camera, No. 3A, 3¼x5½, fitted with Bausch & Lomb Zeiss Tessar IIb, *f*:6.3, Anastigmat Lens and Optimo Shutter	68.00
Seven-Five Roll Film Seneca Camera, No. 3A, with Seneca Anastigmat *f*:7.5 Lens and Victo Shutter	27.50
Seven-Five Roll Film Seneca Camera, No. 3A, with Seneca Anastigmat *f*:7.5 Lens and Autic Shutter	30.00
Leather Carrying Case with strap	3.50
Vulcan Film Cartridge, No. 244, 6 Exposures	.40
No. 244, 10 Exposures	.70
Portrait Attachment	.50
3¼x5½ Tank Developing Powders, per package	.30
M. Q. Developing Powders, per box (six tubes)	.35
Seneca Acid Fixing Powder, per 1 lb. package	.25
Do. per ½ lb. package	.15
Do. per ¼ lb. package	.10

No. 1 Seneca Junior Camera with Meniscus Achromatic Lens	$ 9.00
No. 1 Seneca Junior Camera with Rapid Rectilinear Lens	11.00
No 1 Seneca Junior Camera with Seneca Anastigmat *f*:7.5 Lens	18.00
No. 1 Seneca Junior Camera with Seneca Anastigmat *f*:6.3 Lens	28.00
No. 1 Seneca Junior Camera with Anastigmat *f*:4.5 Lens	50.00
No. 240 Vulcan Film Cartridge 6 exposures	.20
Leather Case	2.00
2¼x3¼ Tank Developing Powders, per package ½ doz	.25
Argo Paper, per dozen sheets, 2¼x3¼	.12
Actino Flash Cartridges, per box (six cartridges).	
No. 12 for 12 foot distance	.35
No. 18 for 18 foot distance	.50
No. 30 for 30 foot distance	.60

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The Name

Seneca

on Photographic Apparatus or Material of any kind is an absolute Guarantee of Quality.