



For Sale by
LANGDON B. WHEATON, Photographic Supplies,
366 Main Street, WORCESTER, MASS.

RAY CAMERAS

1899







RAY CAMERA CO.
ROCHESTER, N. Y., U. S. A.



3rd annual cat.

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27172

	RAY CAMERAS	
1899		
	RAY CAMERA COMPANY ROCHESTER, NEW YORK, U.S.A.	



MADE WITH THE RAY FOLDING CAMERA, SERIES 2, SIZE 5 x 7, REDUCED.

INTRODUCTORY

In presenting this, our third annual Catalogue, we take pleasure in informing our patrons that the firm of Mutschler, Robertson & Co. has recently been incorporated as a Stock Company, with a capital of \$125,000, and will hereafter be known as the "RAY CAMERA COMPANY."

We have also secured a large factory, completely equipped with all the latest and most modern machinery necessary for economic and practical results.

The management will continue the same as in the past, and your every want will have our careful consideration. The enviable reputation which the Ray Camera has earned, together with the enormous sales, which have surpassed even our most sanguine hopes, has led us to add many new styles and original features for 1899, to our already well known line of cameras.

The quality of our goods from first to last is the result of care and painstaking, from the minutest detail to the most important parts, which are combined to produce a superb instrument.

Every department comes under our personal supervision, and nothing but the best, both in material and workmanship, are used in their construction.

Be assured that in the future, as in the past, Ray Cameras will set the pace.

We believe that the best is none too good for our patrons, and therefore invite a careful inspection of the following pages, illustrating in a small degree our manufacture, and in which at all times we are pleased to let our product speak for itself.

Should you be unable to find catalogued herein what you desire, make known to us your wants and we will cheerfully correspond with you.

We are glad of this opportunity to express our highest appreciation of the good will and support our patrons have shown us, which has already rewarded our untiring efforts to give you honest value for your money. We trust that our pleasant relations will still continue, and that we may be of more service in the future.

Very respectfully,

RAY CAMERA COMPANY.

THE CAMERA

Usefulness
and
Pleasure

In this advanced age of photographic research, it would be useless to attempt to give here a detailed account of the usefulness or pleasure derived from the use of a camera, as it would fill a whole volume.

Neither have we the time or space, even if we were disposed to do so. Nevertheless, that this little instrument has found its way into the hearts of the masses is fully demonstrated by the thousands who have them, and have captured the beautiful and stored up treasures of art which otherwise would have long since been lost and forgotten.

Pictures of
Father and
Mother

How many homes are made bright, and how our memories are refreshed, as we look at the scenes of our childhood days around the old homestead. The pictures of father and mother, so natural, just exactly like them! Who does not cherish the picture of a brother or sister just as they looked when the little family were all at home—the little group, so life-like you can almost talk to each one of them, so accurately are they reproduced.

Memories
of
Home

These little memoirs of such inestimable value, which the camera so faithfully aids us in getting, not only brings us back to the "old home," the dearest spot on earth, but also accurately portrays each one of all the scenes and faces in which we have special interest.

Indeed, there is no other instrument in the wide world with which so much enjoyment, pleasure, and profit can be realized as with a camera.

The camera is no respecter of persons, it captivates all alike; no matter what your business may be, it stands ready as a silent partner to assist, until every live business man recognizes its sterling value, as it accurately photographs the product of his toil, and a single picture oftentimes pays for twice the price of the camera; and if you are out for pleasure, you will surely come back without it if you do not have the camera along. No matter what the recreation or pleasure may be, it is always enhanced and kept fresh in our memory by the life-like pictures which are ever a source of enjoyment, and not only to ourselves, but perhaps to our friends who may not be so fortunate as to possess a camera.

The difficulties which have heretofore rendered it so hard to make good pictures have been entirely overcome, and the ease and simplicity with which the beginner can at once make good pictures is indeed marvelous.

The wonderful progress that is being made in the art of camera manufacture has brought the cameras in reach of all, and unfortunate indeed is the person who cannot possess one.

The only question that confronts us is, what camera shall I buy to get the best possible value for the money. And right here we wish to say that the manufacturers of Ray Cameras have constructed these instruments with a full knowledge of the quality and value of all other first-class cameras that are manufactured, and before you purchase we ask a careful comparison of the "Ray" with that of any other manufacture.

Every Live
Business
Man
Recognizes
Its Sterling
Value

Pleasure
and
Profit

Ease
and
Simplicity

Best
Possible
Value
for the
Money



MADE WITH THE RAY FOLDING CAMERA, SERIES 5, SIZE 4 x 5.

RAY CAMERAS

Are constructed of the best material that can be obtained, and combine all the most modern improvements that can be assembled together to make the best only. They will satisfy the demands of the most exacting.

The manipulation of Ray Cameras, from the little Ray Junior, which makes a picture $2\frac{1}{2} \times 2\frac{1}{2}$ inches square, up to the largest Folding Cameras, which are works of mechanical art, is so simple and easy that it is a delight to operate them, and beginners do not have to make failures with the Ray.

The lenses used in all Ray Cameras are the famous Bausch & Lomb Optical Co.'s lenses, and it would be a needless expenditure of time to try to enlarge upon the merits of their goods. It is an extreme absurdity for any one concern to say that they believe they are the only ones who inspect their lenses, as we have in our employ one of the most skilled lens men in this country, and every lens is put to the extreme test, and we will guarantee every one. There are none better.

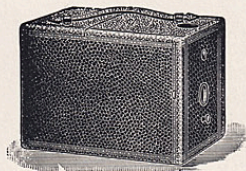
Ray Hand Cameras are all fitted with our patent rotary shutter, which is the simplest to operate and most effective shutter on any hand camera, causing no jar or vibration.

Ray Cameras have entirely done away with the old forms and styles of cameras, with their cumbersome loads. The Rays are light, strong, neat, and compact, and before attempting to purchase any other kind insist upon seeing a Ray, and you will readily be convinced of their superiority over all others.



MADE WITH THE RAY JUNIOR CAMERA, SIZE 2½ x 2½.

RAY JUNIOR



This little camera is without doubt in the hands of more people than any other camera in the world, considering its size and price. It is neat in appearance and perfect in every detail. The wonderful demand and praise daily received for this camera alone attest its value.

It is made of the best seasoned material, covered with genuine seal grain leather, and has a leather handle; best single achromatic lens, patent rotary shutter, for time or instantaneous pictures, also brilliant view finder, capacity for six single plate holders. Size of pictures, 2½ x 2½ inches; size of camera, 5⅛ x 3⅝ x 3½ inches; weight, 7 ounces.

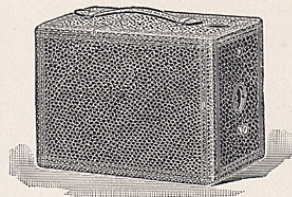
PRICE

Including two plate holders,	\$2.50
Extra holders, each, . . . . .	.25



MADE WITH THE RAY CAMERA, SIZE 3½ x 3½.

RAY CAMERA



For a moderate priced camera, this has been the most successful of any ever offered to the public, and, although nearly every other concern has attempted to copy from it, yet the superiority of the Ray has rendered their efforts fruitless.

It is larger than the Junior, but constructed the same, with the addition of a large square view finder and diaphragm, with three stops in full view. It is made of the best seasoned material, covered with genuine seal grain leather; patent rotary shutter and tripod socket; best grade single achromatic lens; revolving diaphragm, with three stops; large, square, brilliant view finder; leather handle; capacity, six metal plate holders; size of picture, 3½ x 3½; size of camera, 6½ x 4¾ x 4½ inches; weight 14 ounces.

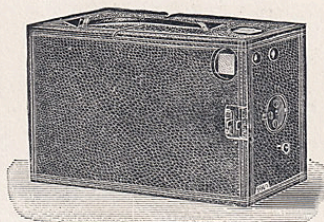
PRICE

Including two single holders,	\$4.00
Extra holders, each, . . . . .	.35



MADE WITH THE RAY B CAMERA, SIZE $3\frac{1}{4} \times 4\frac{1}{4}$.

RAY B CAMERA



The Ray B is the highest type of a magazine camera, although entirely unlike the magazine cameras now on the market, with their concealed and ever-failing mechanism, the best of which are constantly getting out of order and fogging the plates, causing no end of annoyance.

The Ray B is equipped with twelve of our patent single metal plate holders, which are positively light-proof, and can be exposed in full view of the operator in the brightest sunlight.

Each plate is encased in a light-tight, patent holder, and this holder is superior to anything

ever offered, and can be handled in the brightest light when loaded.

Remember, there is no guess-work with this camera; you know what you are doing, and do not have to guess at the results.

It is equipped with the very best improved Meniscus lens, and covers the plate perfectly to the corners, with an extreme depth of focus. It is provided with our patent rotary and speed adjusting shutter.

Made of the best seasoned material; covered with genuine seal grain leather; leather handle; rotary shutter for time and instantaneous exposures; vertical and horizontal view finders; two tripod sockets; revolving diaphragm, with three stops; improved single Meniscus lens, and patent multiplying attachment. Size of picture, $3\frac{1}{4} \times 4\frac{1}{4}$; size of camera, $8\frac{1}{8} \times 4\frac{3}{4} \times 5\frac{1}{4}$ inches; weight, $1\frac{3}{8}$ pounds. It is made to hold twelve of our single metal plate holders, and they will be furnished with two or twelve plate holders, as ordered.

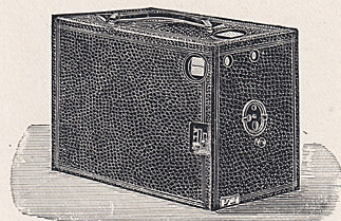
PRICE

Including twelve single metal plate holders,	\$8.00
Including two single metal plate holders,	5.00
Extra holders, each, . . . . .	.35



MADE WITH THE RAY C CAMERA, SIZE 4 x 5.

RAY C CAMERA



We are pleased to say that we believe the hearts of the beginners have been touched by the superb line of Ray Hand Cameras and the moderate prices that have rendered it possible to obtain them, and in our Ray C Camera the ambition of the amateur beginner is fully realized. It is larger than the Ray B, and makes a picture 4 x 5 inches, one of the most popular sizes; has a capacity of three double plate holders, holding six plates.

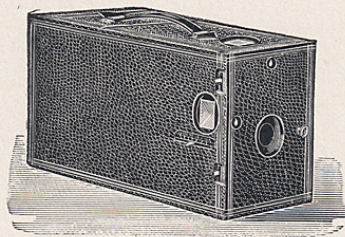
The Ray C has the finest lens that can be made for a universal camera, giving fine definition and depth of focus, and a glance at this instrument will prove it to be superior to any 4 x 5 universal focus camera made.

Made of the best seasoned material; handsomely covered with seal grain leather; embossed leather handle; patent rotary shutter for time or instantaneous exposures, with speed adjustment; vertical and horizontal view finders; two tripod sockets; improved single Meniscus lens; revolving diaphragm, with three stops, and patent multiplying device. Size of camera, $5\frac{1}{4} \times 6\frac{3}{4} \times 7\frac{3}{4}$ inches; weight, $1\frac{3}{4}$ pounds.

PRICE

With one double holder,	\$5.00
Extra holders, each,	1.00

RAY D CAMERA



The Ray D Camera is the most complete hand camera on the market, and is especially adapted for either hand or tripod work. The lens is fitted with sliding mount, that may be focused at any distance, from six feet to any distance desired. The rear of the camera is fitted with ground glass and door in the back for focusing. The shutter is the M. R. & Co., the simplest and nearest to perfection of any ever placed on a hand camera of this style. A large variety of work can be done with this camera, also

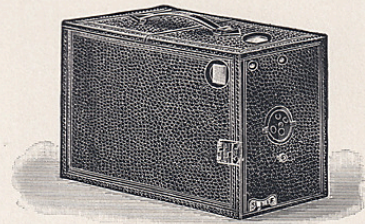
small cabinets and portraits can successfully be made. Size of picture, 4 x 5 inches.

Handsomely covered with seal grain leather, and with leather handle; an accurately marked focusing scale; two view finders; two tripod sockets for vertical or horizontal pictures; best grade single achromatic lens, six-inch focus, large aperture, very rapid. Size, $9\frac{3}{4} \times 5\frac{1}{4} \times 6\frac{3}{4}$ inches; weight, $2\frac{1}{4}$ pounds; capacity, four plate holders.

PRICE

Including one double holder,	\$8.00
Extra holders, each,	1.00

RAY E CAMERA



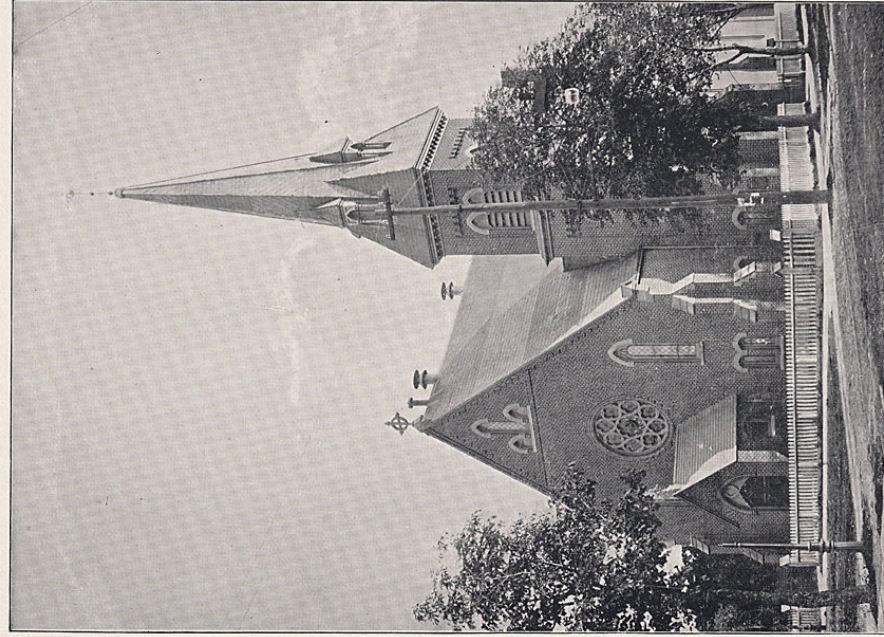
This camera has been constructed to meet the demand for a large number who desire a hand camera, complete in itself, that will take a sufficient number of pictures without resorting to the dark-room. The Ray E is equipped with twelve of our patent metal plate holders, all of which can be operated in broad daylight. It is not necessary to expose them all to get the desired pictures before opening the camera.

The Ray E is exactly like the Ray B, excepting in size, and it is superior to any so-called magazine camera, with their concealed mechanism, the best of which are constantly getting out of order and confusing the operator. The Ray E is the best and most complete 4 x 5 hand camera that has ever been built, and has all the most modern improvements, including the highest grade 4 x 5 Universal lens, and is without exception the most compact, neatest, and most serviceable hand camera ever offered for the price.

Made of the best seasoned material; covered with seal grain leather; leather handle; two view finders; two tripod sockets, for vertical or horizontal pictures; patent rotary shutter, with speed adjustment; fine improved single Meniscus lens, fitted with revolving diaphragm, with three stops, and our patent multiplying attachment; twelve single plate holders. Size of camera, $9\frac{1}{4} \times 5 \times 6\frac{1}{2}$ inches; weight, including plate holders, $3\frac{1}{4}$ pounds.

PRICE

Including twelve holders,	\$10.00
No extras.	



MADE WITH THE RAY FOLDING CAMERA, SERIES 3, SIZE 5 x 7, REDUCED.

RAY FOLDING CAMERAS

In calling your attention to our line of Folding Cameras for 1899, we will endeavor to give a description of each particular style in as clear and concise terms as possible, calling attention to the particular features and advantages which each particular style possesses over the preceding one. Hitherto the description of folding cameras and their various styles, in the majority of catalogues, has consisted of from one to three pages of repetitions, going over the same ground again and again, and adding the particular advantages of a certain style over the preceding one, the description of this certain feature occupying probably a half dozen lines, and the balance of the description being almost identical with the previous one. To wade through the labyrinth of continued repetition for probably twenty-five to fifty styles and sizes of cameras, only serves to confuse the beginner and make it almost impossible for anyone, except an expert, to discover any difference between the various descriptions, except the price.

In describing our line for 1899, we have endeavored to avoid this confusing repetition and by practical drawings and concise description, make the difference in the various styles plainly apparent, and thus give the intending purchaser a definite idea of the advantages of any particular style.

The cameras throughout are constructed of the best selected mahogany, thoroughly kiln-dried, and polished to the highest degree of perfection. The metal throughout is of

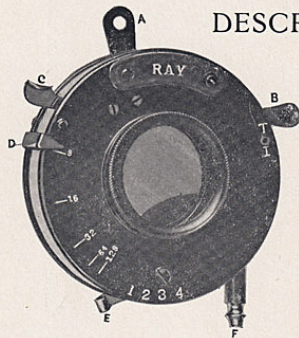
selected material, made particularly for each individual part. Durability has not been sacrificed for light weight and size, but every part is carefully figured and tested to perform the particular function it is intended to perform, making a handsome, neat, and durable combination. As hitherto stated, every part of the work is under our direct supervision, and every camera is tested before leaving the factory, and is guaranteed to accomplish all that is claimed for it, and you are assured in every instance of honest value for your money.



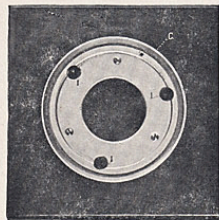
MADE WITH THE RAY FOLDING CAMERA, SERIES 3, SIZE 4 x 5, R. S. LENS.

DESCRIPTION OF SHUTTERS

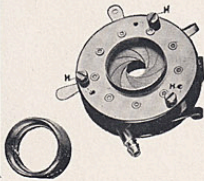
THE RAY



- A Is the setting lever.
- B The time lever.
- C The finger release.
- D Diaphragm adjusting lever.
- E The speed regulating lever.
- F Tube for attaching bulb for pneumatic release.

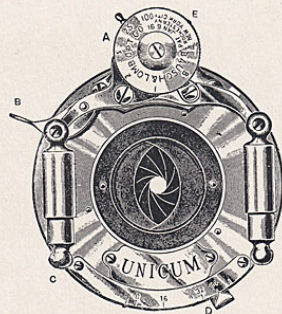


- Showing device for attaching and detaching lens and shutter from the front board.
- Rear lens removed, showing Iris Diaphragm.
- To attach the shutter, the studs H, H, H are placed in the opening I, I, I, and the milled locking plate G turned to the right.
- To detach, the operation is reversed.



Our cameras, on request of the purchaser, can be fitted with lenses and shutters of any particular make they may select. In our price-list, however, we have listed them with our new Ray Shutter, which is an entirely new invention, comprising all the features of a desirable shutter. It is very light and compact, and is equipped with time, instantaneous, finger, or pneumatic release and Iris diaphragm, also a practical and convenient method of attaching to and detaching it from the camera. It is also equipped with a variable speed adjustment.

THE UNICUM SHUTTER



- A Setting lever.
- B Finger release.
- C Pneumatic release.
- D Diaphragm adjusting lever.
- E Speed dial.

Our cameras are also listed with Bausch & Lomb Optical Co.'s unicum and diaphragm shutters and rapid universal and anastigmat lenses, all of which have acquired an enviable reputation, not in the United States alone, but all over the world. The name is a sufficient guarantee that the goods are of the best and latest designs, and perfect workmanship.

Full directions for operating either shutter are furnished with every camera.



MADE WITH RAY FOLDING CAMERA, SERIES 1, SIZE 4 x 5, R. R. LENS.

LENSES

SINGLE ACHROMATIC

All our Single Achromatic Lenses are of an improved Meniscus type, and are carefully selected, both at the factory and after being placed in the cameras. Nothing is allowed to pass that does not cover the plate entirely to the corners, with clear and distinct definition.

SPECIAL R. R. LENS

This lens is designed to meet the demand for a double combination lens at a reasonable price, and has given universal satisfaction, astonishing the manufacturers themselves by the results obtained, considering the extremely low price at which they are offered.

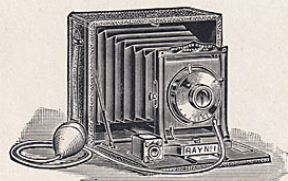
SPECIAL RAPID SYMMETRICAL

This is the most improved type of a double combination lens in a symmetrical style, and has a considerably larger aperture than the preceding styles, making it very rapid. They are also all especially selected and tested for achromatism, definition, depth of focus, and flatness of field.

RAPID UNIVERSAL AND BAUSCH & LOMB ANASTIGMAT LENSES

Are too well known to require any lengthy description. These and wide angle lenses will be fitted to our cameras on application.

SERIES NO. 1



CAMERA WITH RAY SHUTTER.

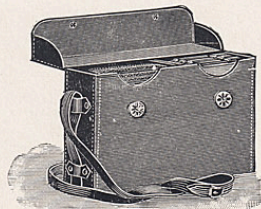
TOURIST OR CYCLE FOLDING CAMERA

The unparalleled success we have met with in the manufacture and sale of this style of camera during the past year, and the unsolicited testimonials we have received in regard to their merits, verifies our statement when we say that for a simple, practical folding camera, constructed of as few parts as possible, of the best material and finest workmanship, it is without an equal, and is positively the best value for the money on the market. The parts are simple, strong, handsome, and durable, without any attachments confusing to the beginner, making it in all a most durable instrument for the prospective amateur.



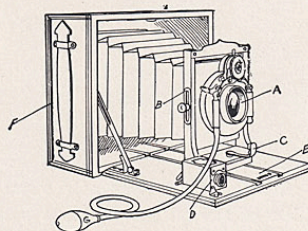
CAMERA CLOSED.

4 x 5 size, 2 1/4 x 5 1/4 x 6.
5 x 7 size, 2 7/8 x 6 1/4 x 8 1/4.
Weight, 4 x 5, 28 ounces.
" 5 x 7, 3 pounds.



CAMERA AND PLATE HOLDER
IN CASE.

SERIES NO. 1



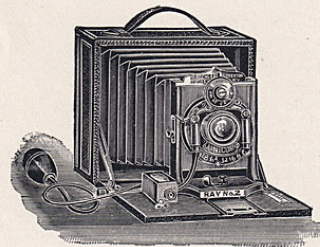
- A Shutter and lens.
- B Rising and falling front.
- C Clamp screw.
- D Reversible view finder.
- E Sliding bed plate.
- F Plate and roll holder adapter.
- G Pneumatic release.

Specifications

- 1 Polished mahogany case, front and bed.
- 2 Covering, fine seal grain leather.
- 3 Bellows, fine maroon leather.
- 4 Trimmings, polished and lacquered brass.
- 5 Reversible view finder, brass top.
- 6 Rising and falling front.
- 7 Time, instantaneous, finger, and pneumatic release shutter.
- 8 Iris diaphragm.
- 9 Plate and roll holder adapter.
- 10 Ground glass and focusing scale.
- 11 Two tripod nuts.
- 12 Leather handle.
- 13 Carrying case.
- 14 One double plate holder.
- 15 One instruction book.

STYLE.	PRICE	4 x 5	5 x 7
1 Ray shutter, single achromatic lens,		\$10.00	\$16.00
2 Ray shutter, R. R. lens,		12.00	18.00
3 Unicum shutter, single achromatic lens,		14.00	20.00
4 Unicum shutter, R. R. lens,		15.00	22.00
Extra double holders,		1.00	1.25

SERIES NO. 2



TOURIST OR CYCLE FOLDING CAMERA

This style comprises all the specifications of the preceding one, with the addition of several new features and attachments demanded by more experienced amateurs.

The rack and pinion focusing attachment makes it very desirable for fine focusing, also the sliding front movement will be found convenient in making vertical pictures. The detachable lens board is an especially handy arrangement, whereby the shutter and lens can be removed and a wide angle or any other lens inserted in an instant, thus doing away with unscrewing the shutter, whereby the fine mechanism is often injured, and the annoyance caused by different sized lens flanges is avoided. Extra duplicate lens boards can be secured at any time and fitted to any lens it is desirable to use in the camera.

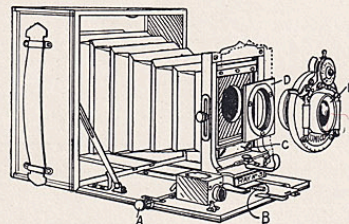


CAMERA CLOSED.

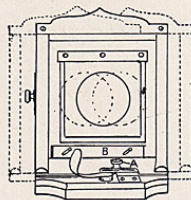
4 x 5 size, 2 1/4 x 5 1/4 x 6.
5 x 7 size, 2 3/8 x 6 1/4 x 8 1/4.
Weight, 4 x 5, 30 ounces.
" 5 x 7, 3 1/4 lbs.

SERIES NO. 2

Specifications

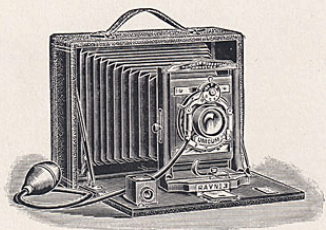


- A Pinion for focusing.
- B Rack and bed plate.
- C Sliding front.
- D Detachable lens board.
- E Shutter and lens.



- 1 Polished mahogany case, front and bed.
- 2 Covering, fine seal grain leather.
- 3 Bellows, maroon colored leather.
- 4 Trimmings, polished and lacquered brass.
- 5 Reversible view finder, brass top.
- 6 Rising and falling front.
- 7 Time, instantaneous, finger, and pneumatic release shutter.
- 8 Iris diaphragm.
- 9 Plate and roll holder adapter.
- 10 Ground glass and focusing scale.
- 11 Two tripod nuts.
- 12 Leather handle.
- 13 Sole leather carrying case.
- 14 One double plate holder.
- 15 Sliding front.
- 16 Detachable lens board.
- 17 Rack and pinion focusing attachment.
- 18 One instruction book.

STYLE.	PRICE	4 x 5	5 x 7
1 Unicum shutter, R. R. lens,	\$20.00	\$24.00	
2 Unicum shutter, rapid symmetrical lens,	22.50	27.50	
Extra lens boards fitted, . . . . .	.35	.50	
Extra double plate holders,	1.00	1.25	



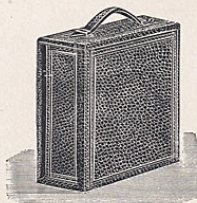
SERIES NO. 3

TOURIST OR CYCLE FOLDING CAMERA

This is the acme of perfection in this style of a camera. All the movements and attachments ever constructed in an instrument of this size will be found in this series. In addition to all the

advantages of the preceding styles, this is equipped with a double swing back, whereby the camera, instead of being held or set perfectly level, can be pointed up or down, and the ground glass swung into a vertical position, keeping the perpendicular lines on the image parallel.

The swing frame is made of aluminum, thus greatly decreasing the weight and still leaving it very stiff and rigid in position. The whole is highly polished and lacquered, giving it a very handsome appearance. A door on the end of the camera opens where it is desirable to use the swings. All swings are pivoted at the center, which is optically correct, and allows the focusing scale to be used without focusing as for ordinary exposures.



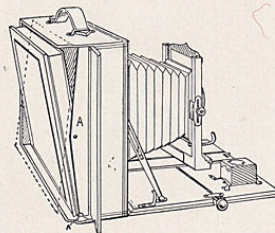
CAMERA CLOSED.

Size, 4 x 5, 6 $\frac{1}{4}$ x 2 $\frac{1}{2}$ x 3 $\frac{1}{8}$.
 " 5 x 7, 8 $\frac{3}{8}$ x 3 x 6 $\frac{1}{4}$.
 Weight, 4 x 5, 2 lbs. 2 oz.
 " 5 x 7, 3 lbs.

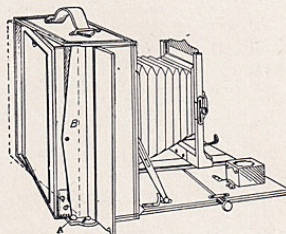
SERIES NO. 3

Specifications

- 1 Polished mahogany case, front, and bed.
- 2 Covering, fine morocco grain leather.
- 3 Bellows, fine maroon colored leather.
- 4 Trimmings, polished and lacquered brass and aluminum.
- 5 Reversible view finder, brass top.
- 6 Rising and falling front.
- 7 Time, instantaneous, finger, and pneumatic release shutter.
- 8 Iris diaphragm.
- 9 Plate and roll holder adapter.
- 10 Ground glass and focusing scale.
- 11 Two tripod sockets.
- 12 Leather handle.
- 13 Sole leather carrying case.
- 14 One double plate holder.
- 15 Sliding front.
- 16 Detachable lens board.
- 17 Rack and pinion focusing attachment.
- 18 Horizontal swing back.
- 19 Vertical swing back.
- 20 Instruction book.

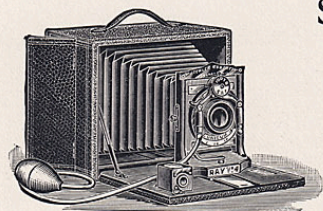


A Vertical swing.



B Horizontal swing.

STYLE.	PRICE	4 x 5	5 x 7
1 Including Unicum shutter and rapid symmetrical lens,	\$25.00	\$32.00	
2 Including B. & L. diaphragm shutter, rapid universal lens,	42.00	54.00	
Extra lens boards fitted, . . . . .	.35	.50	
Extra plate holders, each,	1.00	1.25	

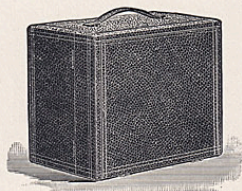


SERIES NO. 4

FOLDING CAMERA

This is one of the most popular styles of folding cameras and is almost identical in construction with our Series No. 1, the only difference being that it is provided with a horizontal swing and the case is

extended back sufficient to hold three double plate holders, or roll holder. It is also provided with a ground glass and door in the back for focusing. The solid bed plate, rising and falling front are the same as those used in Series No. 1. No carrying case is necessary with this style, as the camera itself holds the extra holders, which can be removed and inserted by opening the door on the end, thus making it easier and quicker to manipulate than when the camera and holders have to be taken from the case to make an exposure. This has been a favorite style with amateurs for the past two seasons, and with the improvements and fine workmanship which we have put in the construction, makes it an ideal instrument for the low price at which it is offered.

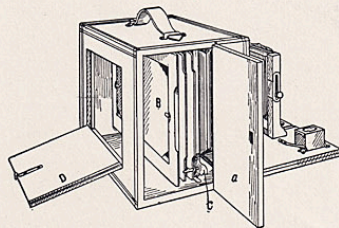


CAMERA CLOSED.

Size, 4 x 5, 7 x 4 5/8 x 5 7/8.
5 x 7, 9 1/8 x 5 7/8 x 6 7/8.
Weight, 4 x 5, 2 lbs. 6 oz.
5 x 7, 3 lbs. 3 oz.

SERIES NO. 4

Specifications

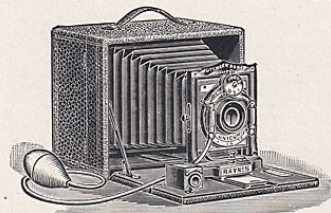


- A End door open to operate the swing-back or insert the plate holders.
- B Ground glass.
- C Horizontal swing.
- D Back door which opens to locate image on ground glass.

- 1 Polished mahogany case, bed, and front.
- 2 Covering, fine seal grain leather.
- 3 Bellows, fine maroon leather.
- 4 Trimmings, polished and lacquered brass.
- 5 Reversible view finder, brass top.
- 6 Rising and falling front.
- 7 Time, instantaneous, finger, and pneumatic release shutter.
- 8 Iris diaphragm.
- 9 Capacity, three double plate holders, or roll holder.
- 10 Ground glass and focusing scale.
- 11 Two tripod nuts.
- 12 Leather handle.
- 13 One double plate holder.
- 14 Single horizontal swing.
- 15 Instruction book.

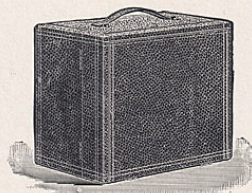
STYLES.	PRICE	4 x 5	5 x 7
1 Ray shutter, single achromatic lens,		\$10.00	\$16.00
2 Ray shutter, R. R. lens,		12.00	18.00
3 Unicum shutter, S. A. lens,		14.00	20.00
4 Unicum shutter, R. R. lens,		16.00	22.00
Extra double holders,		1.00	1.25

SERIES NO. 5.



FOLDING CAMERA

This is similar in appearance to the No. 4 Series, and the additional improvements consist of the sliding front, detachable lens board, and rack and pinion focusing attachment described in our Series No. 2. This, as in the preceding styles, has a capacity of three double plate holders, or roll holder, also a single horizontal swing.



CAMERA CLOSED.

Size, 4 x 5, 7" x 4 $\frac{5}{8}$ " x 5 $\frac{7}{8}$ ".
 " 5 x 7, 9 $\frac{1}{8}$ " x 5 $\frac{1}{8}$ " x 6 $\frac{1}{8}$ ".

Weight, 4 x 5, 2 $\frac{1}{2}$ lbs.
 " 5 x 7, 3 lbs. 6 oz.

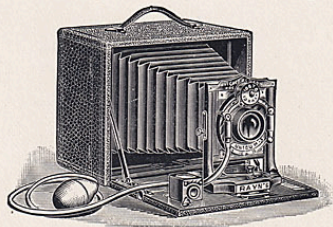
SERIES NO. 5

Specifications

- | | |
|---|---|
| 1 Polished mahogany case, bed, and front. | 10 Ground glass and focusing scale. |
| 2 Covering, fine seal grain leather. | 11 Two tripod nuts. |
| 3 Bellows, fine maroon leather. | 12 Leather handle. |
| 4 Trimmings, polished and lacquered brass. | 13 One double plate holder. |
| 5 Reversible view finder, brass top. | 14 Single horizontal swing. |
| 6 Rising and falling front. | 15 Detachable lens board. |
| 7 Time, instantaneous, finger, and pneumatic release shutter. | 16 Sliding front. |
| 8 Iris diaphragm. | 17 Rack and pinion focusing attachment. |
| 9 Capacity, three double plate holders, or roll holder. | 18 One instruction book. |

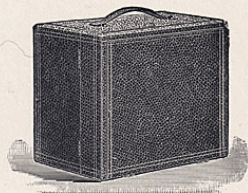
STYLES.	PRICE	4 x 5	5 x 7
1 Unicum shutter, R. R. lens,	\$20.00	\$24.00	
2 Unicum shutter, rapid symmetrical lens,	22.50	27.50	
Extra double holders,	1.00	1.25	
Extra lens boards, . . . . .	.35	.50	

SERIES NO. 6



FOLDING CAMERA

This series, as in our No. 3 Cycle style, comprises all the movements it is possible to apply in a hand camera, and supplies the demand of the most fastidious amateur, and is guaranteed for convenience, appearance and elegant workmanship, to be without a peer. The lenses for this series have particular attention, and nothing but the best is good enough. To all who desire the best that money can buy anywhere, we heartily recommend this design.



CAMERA CLOSED.

Size, 4 x 5, 7 x 4 7/8 x 5 7/8.
5 x 7, 9 1/8 x 5 1/8 x 6 7/8.

Weight, 4 x 5, 2 lbs 10 oz.
5 x 7, 3 1/2 lbs.

SERIES NO. 6

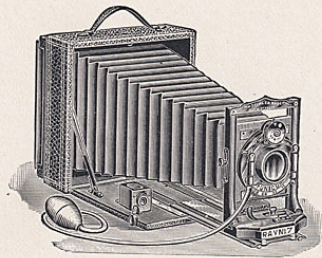
Specifications

- | | |
|---|---|
| 1 Polished mahogany case, bed, and front. | 10 Ground glass and focusing scale. |
| 2 Covering, fine seal grain leather. | 11 Two tripod nuts. |
| 3 Bellows, fine maroon leather. | 12 Leather handle. |
| 4 Trimmings, polished and lacquered brass. | 13 One double plate holder. |
| 5 Reversible view finder, brass top. | 14 Detachable lens board. |
| 6 Rising and falling front. | 15 Sliding front. |
| 7 Time, instantaneous, finger, and pneumatic release shutter. | 16 Rack and pinion focusing attachment. |
| 8 Iris diaphragm. | 17 Horizontal swing. |
| 9 Capacity, three double plate holders or roll holder. | 18 Vertical swing. |
| | 19 Instruction book. |

STYLES.	PRICE	4 x 5	5 x 7
1 Unicum shutter, rapid symmetrical lens,	\$25.00	\$32.00	
2 Bausch & Lomb diaphragm shutter and rapid universal lens,	42.00	54.00	
Extra double plate holders,	1.00	1.25	
Extra lens boards, . . . . .	.35	.50	

SERIES NO. 7

LONG FOCUS REVERSIBLE BACK



This camera possesses some distinctly new features not obtained in any other camera on the market, and is especially designed for convertible anastigmat or high grade lenses with variable focus. It is constructed with an auxiliary bed which can be racked out over the ordinary bed to almost its entire length, giving a variation of focus in the 4 x 5 size of from 4 1/2 to 12 inches, and in the 5 x 7 size from 5 to 15 inches.

The Auxiliary Bed is made of aluminum so formed as to make it extremely rigid, and its highly polished surface, in contrast with the polished and lacquered brass, and mahogany finish, makes it an extremely attractive and elegantly finished camera.

The other feature is the Reversible Back, by means of which pictures can be taken vertically or horizontally without changing the position of the camera on the tripod. It is also provided with swing back, rising and sliding front, and everything that constitutes the highest grade of camera.

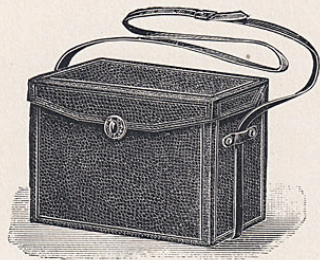


SERIES NO. 7

Specifications

- | | |
|--|--|
| 1 Polished mahogany case, bed and front. | 11 One tripod nut. |
| 2 Covering, fine morocco grain leather. | 12 Leather handle. |
| 3 Bellows, fine maroon, extra long. | 13 One double holder. |
| 4 Trimmings, polished and lacquered brass and aluminum. | 14 Sliding front. |
| 5 View finder, brass top. | 15 Detachable lens board. |
| 6 Rising and falling front. | 16 Aluminum auxiliary bed. |
| 7 Time, instantaneous, finger and pneumatic release shutter. | 17 Double rack and pinion focusing attachment. |
| 8 Iris diaphragm. | 18 Swing back. |
| 9 Sole leather carrying case. | 19 Plate-holder adapter. |
| 10 Ground glass and focusing scale. | 20 Reversible back. |

STYLE.	PRICE	4 x 5	5 x 7
1 Unicum shutter, rapid symmetrical lens, . . .	\$30.00	\$35.00	
2 Diaphragm shutter, rapid universal lens, . . .	50.00	60.00	
		Lens No. 3	Lens No. 8
3 Diaphragm shutter, Zeiss-Anastigmat lens, Series VIIa,	100.00	125.00	



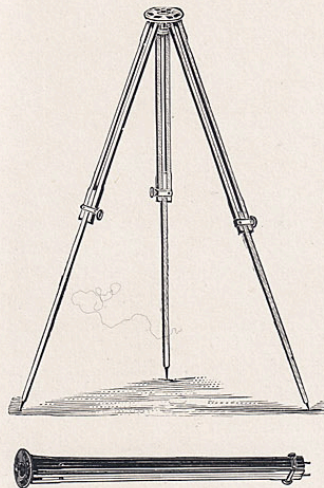
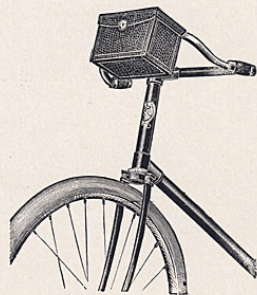
CARRYING CASES

Are the handsomest, strongest, and best made on the market. The catches are heavily nickeled.

These are made in two styles, for the Bicycle and with shoulder straps. In ordering, state which is desired, or we will send one with shoulder strap.

PRICES

Ray Jr. Case, 2½ x 2½,	\$1.00
Ray Case, 3½ x 3½,	1.25
Ray B Case, 3¼ x 4¼,	1.50
Ray C or D Case, 4 x 5,	2.00
Ray E Case, 4 x 5,	2.00
Ray Series, 4, 5, and 6, Folding 4 x 5,	2.00
Ray Series, 4, 5, and 6, Folding 4 x 5,	3.00



NO. 1 RAY SLIDING TRIPOD

This is the lightest sliding tripod on the market. It is made of the best selected spruce, finished in shellac, and is equipped with our Patent Metal Head, making it very rigid.

Length, closed, 28 inches; weight, 15 ounces.

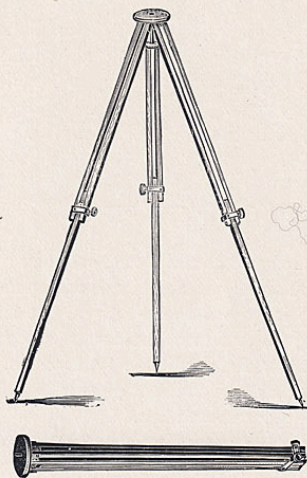
NO. 1 RAY SLIDING TRIPOD

This tripod is the same as the No. 1, only being more highly finished and beveled, and it is equipped with polished and lacquered brass fittings. It is the lightest, strongest, and most handsome tripod on the market. Either size is suitable for cameras, from 2½ x 2½ to 4 x 5 inches.

Neatly packed in pasteboard box.

PRICE

No. 1,	\$1.00
No. 2,	1.50



NO. 3 RAY SLIDING TRIPOD

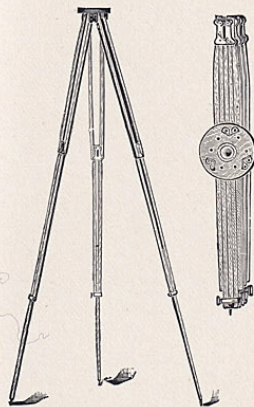
The No. 3 Sliding Tripod is made in three sections, of the best seasoned spruce, and is considerably stronger than Nos. 1 and 2; the center pieces sliding within the outer ones, and, by means of an improved milled head screw, can be held at any desired height.

The top is made of wood and neatly covered with cloth. When closed it measures but 30 inches and weighs only 17 ounces.

This tripod is suitable for any of our cameras from 4 x 5 to 5 x 7 inches.

Neatly packed in pasteboard box.

Price, \$2.00



RAY COMPACT TRIPOD.

The Compact Tripod is a new design made especially for use with hand cameras, where size, lightness of weight, and strength are important factors.

It is made in three sections, which fold and slide, and can be adjusted to any desired height.

It is made of the best selected spruce, with brass trimmings. When fully extended it is five feet long, and when closed, but 22 inches, weighing only 22 ounces.

The top is covered with cloth to prevent marring the camera, and it is also fitted with patent brass lugs to prevent the legs from slipping out when set up. The No. 5 has a superior finish, also highly polished and lacquered brass fittings.

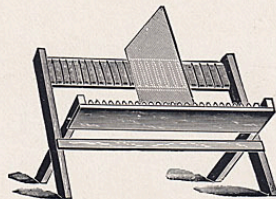
These tripods are suitable for any of our cameras from 3½ x 3½ to 5 x 7. Neatly packed in pasteboard box.

Price, No. 4, \$2.50
 " No. 5, 3.00

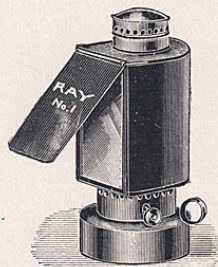
RAY NEGATIVE RACKS.

Are a very convenient accessory for the dark room, preventing the negative from becoming scratched while drying. They fold up flat, are light, strong, and will hold any size negative up to 6½ x 8½.

Price, 25c.



RAY DARK-ROOM LAMPS

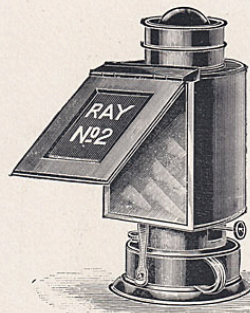


These lamps are of our own design and construction, and are absolutely the best made and finished lamps on the market. The lamps are each given two coats of maroon enamel, which is thoroughly baked on, thus preventing any smell when in use. They have central draft, hence no smoke or fume, but a steady, safe light, and plenty of it. In the No. 2 the body is hinged at the back and has both orange and ruby glass. The light is controlled from the outside, and an adjustable shield protects the eyes, throwing the light directly on the developing tray.

The No. 1 is smaller than the No. 2, and glass is raised in the side to light the wick, but the flame is controlled in either case from the outside.

PRICE

No. 1,	\$.80
No. 2,	1.00

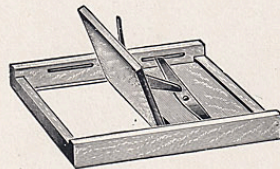


RAY PRINTING FRAMES

Are made especially for the amateur. They are made of the best seasoned cherry and the springs of the best spring brass. They are light and strong.

PRICE

2½ x 2½,	\$.25	4¼ x 4¼,	\$.25
3½ x 3½, . . . . .	.25	4 x 5, . . . . .	.25
3¼ x 4¼, . . . . .	.25	5 x 7, . . . . .	.40



COMPACT CANDLE LAMP

The Compact Candle Lamp is a new design in collapsible lamps, and is intended more especially for use when traveling.

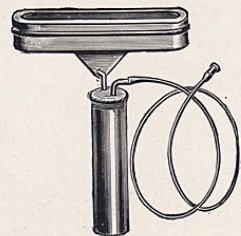
The top and bottom may both be removed and packed with the body of the lamp in a box only one inch in depth.

Price, \$.50

THE RAY FLASH LAMP

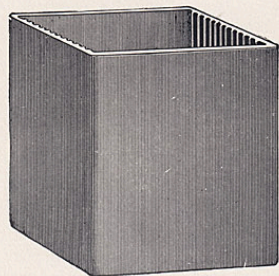
Flash Light Photography is now attracting widespread attention among the amateurs, and the Ray Flash Lamp fills a long felt want. With it, interiors, groups, dinner and card parties may be taken as clear and sharp as if they were in bright sunlight.

The lamp is constructed on strictly scientific principles, enough air being mingled with the powder to produce perfect combustion, giving a large, wide flash that can be looked at without closing or blurring the eyes. The flash can also be made instantaneous or steady for any length of time desired. Pure magnesium powder only is used, being considered by all to be the best artificial light, as well as the only safe one to use. Other so-called flash-light powders are explosive, and are therefore dangerous. Pure magnesium is not. Twenty-five to thirty ordinary exposures can be made with this lamp without reloading. It is small, compact, and can be easily carried in the pocket. It is the most economical, because it burns all the powder. Made in two sizes.



PRICE

No. 1, for amateurs,	\$1.50
No. 2, for professionals,	3.00



1

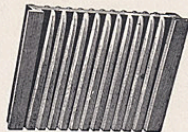
FIXING BATHS

New styles with many improvements. Made of the same material and possessing the same properties as the developing trays. Each bath holds twenty-four plates.

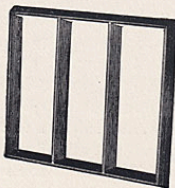
Cut No. 1 represents the bath for 4 x 5 plates only.

The next regular size of bath (of which no cut is shown) contains grooves on all four sides, and being a little longer than it is wide, takes 5 x 8 plates one way, and 5 x 7 plates the other, thereby doing the work of two ordinary boxes.

Cuts No. 2 and 3 represent a grooved partition and rack designed to fit inside the box last described, and such box with these extra parts will accommodate twenty-four plates of any size from 3 1/4 x 4 1/4 up to 5 x 8, at the pleasure of the operator, thereby filling a want long felt by the trade.



2

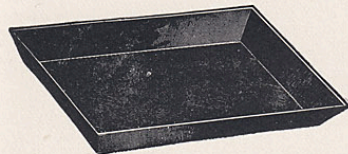


3

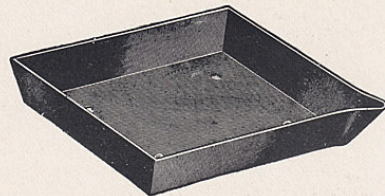
PRICE

4 x 5 plates, each,	\$2.00
5 x 7 and 5 x 8 plates, each,	2.25
5 x 7 and 5 x 8, with extra parts, each,	3.00
Extra parts (separate from box), per pair, . . . . .	.75

DEVELOPING TRAYS



SHALLOW



DEEP

The latest, the cheapest, the best. Guaranteed to be acid and alkali proof. The best in the market for developing and toning. The above cuts show the relative shape and depth of the two styles. Both have slight knobs on the bottom, and the deep trays all have a lip.

PRICE

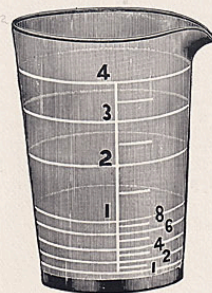
3 1/4 x 4 1/4, shallow, 20c.	7 x 9, shallow, 70c.; deep, 85c.
4 1/4 x 5 1/2, shallow, 25c.; deep, 50c.	8 1/2 x 10 1/2, shallow, \$1.05; deep, \$1.20.
5 1/2 x 8 1/2, shallow, 55c.; deep, 70c.	

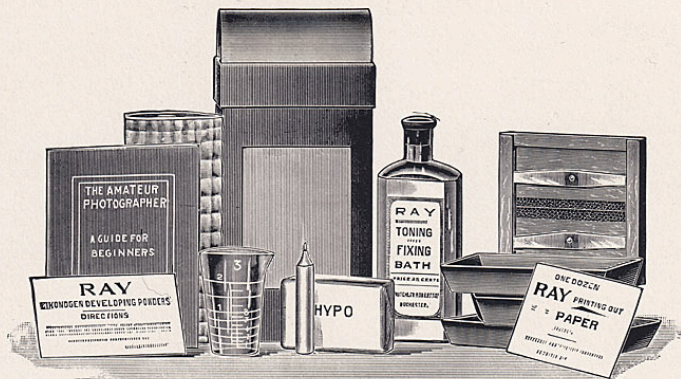
MEASURING GLASSES—Graduated

These answer every purpose as a regular graduate, the two and four-ounce sizes being graduated into drachms, and the eight-ounce into ounces only. They are more durable than graduates, and are very popular on account of price.

PRICE

2-ounce,	15c.
4-ounce,	20c.
8-ounce,	25c.





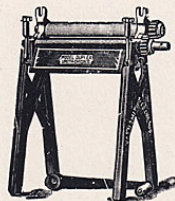
DEVELOPING AND PRINTING OUTFIT

The developing and printing outfit consists of the following, arranged in sizes according to size of camera :
 3 Fibre Trays, 1 Dark Room Lamp, 1 Printing Frame, 1 dozen Ray Paper, 1 bottle Ray Toning and Fixing Solution, 2 Packages Developing Powders for eight ounces Developer, 1 Package Hyposulphite Soda, 1 Glass Graduate, 1 Book of Instructions.

This outfit cannot be shipped by mail. Prices for different sized cameras are as follows :

For 2½ x 2½ Camera, \$1.25	For 3¼ x 4¼ Camera, \$1.50
For 3½ x 3½ Camera, 1.50	For 4 x 5 Camera, 2.00

In our 4 x 5 outfit we put our Compact Candle Lamp.



THE MODEL DUPLEX BURNISHER

This is a new machine, built to meet the growing demand for a good double roll burnisher in small sizes, at lower prices than those heretofore offered. It is thoroughly well made in every detail. The top roll is hinged, and the pressure can be quickly and perfectly adjusted. The roll is quickly heated with either oil or gas, and results produced are unsurpassed by any burnisher made.

PRICE

6-inch, with oil or gas heater,	\$ 7.50
8-inch, with oil or gas heater,	10.00
10-inch, with oil or gas heater,	12.50
12-inch, with oil or gas heater,	15.00

FERROTYPE PLATES

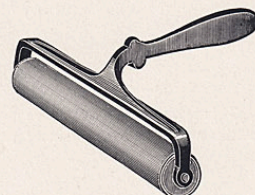
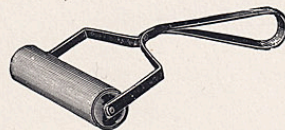
Have a highly polished surface, and are used for drying prints on when it is desired to have a high gloss without burnishing. Cannot be sent by mail.

PRICE

Size, 10 x 14, light, each, 15c.; per dozen,	\$1.25
Size, 10 x 14, heavy, each, 20c.; per dozen,	2.00

PRINT ROLLERS

The four and six-inch rollers have wood center, rubber covered, one-inch diameter, nicked steel frame, and with handles in such position that no "twist of the wrist" is needed to get the strongest pressure with the least effort. The six, eight, and ten-inch rollers have cast-iron frame, very rigid, handsomely buffed, and nickel-plated.



PRICE

4-inch, 25c.; 6-inch, 50c.; 8-inch, 60c.; 10-inch, 75c.

RAY DEVELOPERS.

RAY EIKONOGEN DEVELOPER—Concentrated

This is an excellent developer for snap shots, giving plenty of softness and detail. It can also be very successfully used for time exposures by diluting it with water, thus making a splendid developer. Will not stain the fingers.

PRICE

8-ounce bottle,	30c.
16-ounce bottle,	60c.

RAY HYDROCHINON DEVELOPER—Concentrated

The characteristic of this developer is its brilliancy and contrast, being an excellent developer for full time exposures. It is splendid for landscapes, also for copying engravings and maps. It will not discolor nor stain the fingers, and can be used repeatedly.

PRICE

8-ounce bottle,	30c.
16-ounce bottle,	60c.

TRENOL HYDROCHINON DEVELOPER—Concentrated

This is one of the best all-around developers ever offered to the amateur, as it possesses all the good qualities necessary for producing perfect negatives, and keeps indefinitely. Will not stain the fingers.

PRICE

8-ounce bottle,	30c.
16-ounce bottle,	60c.



RAY DEVELOPING POWDERS

These powders are put up in dry form, and the contents need only to be dissolved in water, and the developer is ready for use.

We offer the following combinations:

Eikonogen,	Eikonogen Hydrochinon,
Trenol,	Hydrochinon,
Trenol Hydrochinon,	Pyro.

PRICE

Per box of six, large size,	50c.
Per box of six, small size,	25c.

RAY COMBINED TONING AND FIXING SOLUTION

This solution is especially prepared by us, possessing all the good qualities of a separate bath. We guarantee this solution to contain gold, thus giving permanent results. Can be used repeatedly until exhausted.

PRICE

4-ounce bottle,	25c.
8-ounce bottle,	35c.
12-ounce bottle,	50c.

Neatly packed in cases of one dozen bottles.



DRY PLATES

We sell several makes of dry plates, among them being Cramer's, Hammer's, Seed's Standard, Cyclone, and N. Y. Record.

PRICE

Size 2½ x 2½,	\$.25
Size 3½ x 3½, . . . . .	.35
Size 3¼ x 4½, . . . . .	.45
Size 4 x 5, . . . . .	.65
Size 5 x 7,	1.10

BLUE PRINT PAPER

This paper is prepared after an improved formula, and the chemical qualities are perfect. It is coated on Rives' Photographic Paper, same as is used with the best Albumen Paper. Most Ferro-Prussiate Paper is coated on a domestic paper, which is not so fine and smooth.

Put up in light-tight packages of two dozen sheets.

PRICE

Size 2½ x 2½, per package of 25 sheets,	15c.
Size 3½ x 3½, per package of 25 sheets,	16c.
Size 3¼ x 4½, per package of 25 sheets,	16c.
Size 4 x 5, per package of 25 sheets,	20c.
Size 5 x 7, per package of 25 sheets,	35c.

RAY PAPER

A reliable photographic printing-out paper. This paper will print with brilliant high lights, giving silky half tones, and rich, transparent shadows, can be used with combined or separate toning baths, and is suitable for strong or soft negatives.

PRICES OF RAY PAPER

SIZE.	DOZEN.	GROSS.	SIZE.	DOZEN.	GROSS.
2½ x 2½	\$.10	\$.90	5½ x 7¼	\$.35	\$3.25
3¼ x 4¼	.10	1.15	6 x 8	.40	4.00
3½ x 3½	.10	1.15	6½ x 8½	.45	4.25
3¾ x 5½	.20	1.35	7 x 9	.50	5.00
4 x 5	.12	1.25	8 x 10	.60	6.50
5 x 7	.30	2.65	10 x 12	.90	10.00
5 x 8	.30	3.00	. . . . .	. . .	. . .

In 10-foot rolls, per roll, \$1.75

CARD MOUNTS, FOR MOUNTING PRINTS

In the list below we have given the number and size of print which each card takes. The actual size of mounts is much larger, giving an ample border. They are put up in packages of twenty-five each, in tea, gray, or white. We will furnish white where no color is specified.

No.	SIZE OF PRINTS.	PER PKGE.	PER 100.	No.	SIZE OF PRINTS.	PER PKGE.	PER 100.
751	2½ x 2½	\$.15	\$.60	760	5 x 7	\$.45	\$1.60
696	3½ x 3½	.20	.80	711	5 x 8	.60	2.35
758	3¼ x 4¼	.25	.90	712	6 x 8	.75	2.85
693	4 x 5	.25	1.00	713	8 x 10	.90	3.60

See prices for postage page 55.



RAY MOUNTING PASTE

½ pint jar,	\$.15
1 pint jar, . . . . .	.25

GLASS FUNNELS

½ pint,	\$.15
1 pint, . . . . .	.20
1 quart, . . . . .	.25

FLAT PASTE BRUSHES

1 inch wide,	\$.15	2 inches wide,	\$.25
1½ inch wide, . . . . .	.20	2½ inches wide, . . . . .	.30

CAMEL HAIR BRUSHES

These brushes are very soft and are used for dusting off plates.

1 inch wide,	\$.25	2½ inches wide,	\$.60
1½ inch wide, . . . . .	.40	3 inches wide, . . . . .	.80
2 inches wide, . . . . .	.50		

BLOTTING PAPER—For Drying Prints

9 x 12 inches, per dozen sheets,	\$.30
12 x 19 inches, per dozen sheets, . . . . .	.55
19 x 24 inches, per dozen sheets,	1.10

CHEMICALS

Acid, Citric, per ounce,	\$.20	Litmus Paper,	\$.15
Acid, Pyrogalic, per ounce, . . . . .	.50	Soda, Sulphite (Crystals), per pound, . . . . .	.20
Alum, Powdered, per pound, . . . . .	.25	Soda, Hyposulphite (1-pound box), . . . . .	.10
Ammonium, Bromide, per ounce, . . . . .	.20	Soda, Hyposulphite (5-pound box), . . . . .	.35
Eikonogen, per ounce, . . . . .	.50	Soda, Carbonate, per pound, . . . . .	.15
Glycerine, per ounce, . . . . .	.20	Potash, Carbonate, . . . . .	.25
Gold, Chloride (15-grain bottle), . . . . .	.60	Potash, Metabisulphite, per ounce, . . . . .	.40
Hydrochinon, per ounce, . . . . .	.50	Magnesium Powder, per ounce, . . . . .	.50

MISCELLANEOUS SUPPLIES

RUBBER PLATE HOLDER SLIDES

2½ x 2½,	\$.15
3½ x 3½, . . . . .	.20
3¼ x 4¼, . . . . .	.20
4 x 5, . . . . .	.25

GROUND GLASS

4 x 5, each,	\$.15
5 x 7, each, . . . . .	.20
No. 1 Ruby Glass, . . . . .	.10
No. 2 Ruby or Orange, . . . . .	.15

All Milled Heads, Nuts, and Screws, each,	\$.25
Bulb and Hose, . . . . .	.50
Bellows for 4 x 5 Cycle Cameras,	2.50
Bellows for 5 x 7 Cycle Cameras,	3.00

RATES OF POSTAGE ON SUPPLIES, ETC.

Toning Solutions, Developers in bottles, Ferrotypes Plates, etc., cannot be sent by mail. Goods ordered by mail must be accompanied by the following *additional* amounts for postage, otherwise they will be sent by express:

Ray Jr. Camera,	Postage, \$.15
Ray Jr. Holders, each,	" .02
3½ x 3½ Holders, each,	" .03
3¼ x 4¼ Holders, each,	" .04
4 x 5 Holders, each,	" .05

PLATES

2½ x 2½, per dozen,	Postage, \$.10
3½ x 3½, per dozen,	" .16
3¼ x 4¼, per dozen,	" .18
4 x 5, per dozen,	" .28

CARD MOUNTS

Ray Jr., per dozen,	Postage, \$.04
Ray Jr., package of 25,	" .08
3¼ x 4¼ and 3½ x 3½, per dozen,	" .08
3¼ x 4¼ and 3½ x 3½, per 25,	" .16
4 x 5, per dozen,	" .11
4 x 5, per package of 25,	" .22

PRINTING PAPER

	Per Dozen	Per Gross
Ray Jr., 2½ x 2½,	Postage, \$.02	\$.06
Ray, 3½ x 3½,	" .02	.10
Ray, 3¼ x 4¼,	" .02	.10
Ray, 4 x 5,	" .03	.14
Ray, 5 x 7,	" .05	.25

TERMS

Prices given in this Catalogue are *net*. We make no charge for boxing or cartage, and guarantee safe delivery of goods when sent by express or freight.

Small parcels that do not contain glass may be sent at purchaser's risk by mail (when postage is enclosed), otherwise they will be sent by express.

Always give shipping directions, otherwise we use our best judgment.

Persons desiring goods sent C. O. D. must in every instance remit double the amount of express charges. Should the goods not be kept after inspection, we will return the amount of remittance, less express charges.

Parties unknown to us, who are desirous of establishing a line of credit, will save delay by furnishing satisfactory references.

We prefer that remittances be made by New York draft, post-office order, money order, express order, or registered letter. If personal checks are sent, kindly have them certified to by bank on which they are drawn, also add fifteen cents for cost of exchange.