

35  
"HOW TO MAKE PHOTOGRAPHS,"

Wilson, Hood & Co.

Dealers in

Photo.



Requisites

825 ARCH STREET,

PHILADELPHIA, PA.

AND DESCRIPTIVE PRICE LIST.

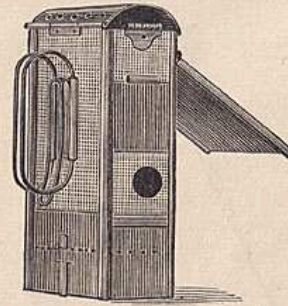


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By Scovill Manufacturing Co

# HOW TO MAKE PHOTOGRAPHS.

Picture making is quite simple, and the details are therefore briefly given. Any person of average intelligence may feel certain that he can succeed in making good photographs if he purchases an equipment made by reliable manufacturers.

**Filling the Plate Holder.**—If this is done in the daytime, a closet or room is selected and all white light excluded from it. It is a difficult task to make this exclusion absolute. One ray of white light will spoil a sensitive plate, and therefore the evening is generally chosen to develop negatives, and for illumination



Ruby Lantern.

the light from a ruby lantern is employed. Open a package of gelatine plates (these plates are glass, with a coating of gelatine on one side) and place one of them in a Dry Plate Holder, with the sensitive (not the glossy) side facing outward. Handle the plates as shown in the outline cut. After putting into the holders as many plates as are needed for a day's work, pack the outfit so that it can be conveniently carried about.

Photographic Times Print.



**Taking the Picture.**—For field service, a camera, a number of plate holders filled with sensitive plates, a lens, tripod, carrying case, and focusing cloth are needed. When these have



Amateur with Kit Packed.

been taken to a place where the view looks inviting, fasten the camera on the tripod, throw the focusing cloth over your head, gather it under your chin, draw out the back of the camera, thus extending the bellows, and continue the movement until the image on the ground glass appears most distinct, then fasten the back of the camera. This is called "focusing." At the first glance an inexperienced person sees no reflection on the ground glass, but the eye soon

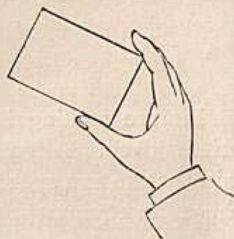
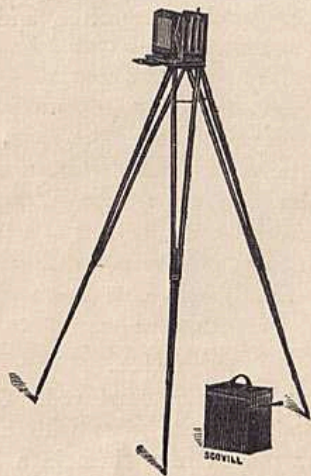


Plate in hand.

becomes practiced to perceiving the inverted image there. Substitute a plate holder for the ground glass, see that the cap is



Apparatus set up.

on the lens, pull the slide out of the holder, and place it on the top of the camera, or in a convenient place. If everything is now in readiness, and the time for exposing the sensitive plate

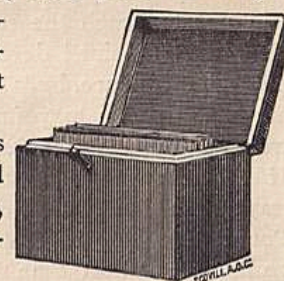
determined, uncap the lens, recapping it at the end of the allotted time and replacing the slide in the holder.

Make an entry in your note book of a similar import to this :

No. of Holder.	No. of Plate.	Lens.	Stop.	Duration of Exposure.	Time of Day.	Name of Subject, General Remarks.
1	1	6-inch.	$\frac{1}{4}$	15	10 A.M.	Bright sunlight. View in Central Park.

After you have picture impressions on each sensitive film, rearrange your outfit in compact shape and return home.

**Making Negatives.**—Amateurs may content themselves with making the exposures and sending their plates in a light-tight negative box to some photographer, who, for a small price, will produce the finished pictures and mount them on card-board or in albums.



Negative Box.

It is not essential where one attends to these details himself, that they should be done at once. Months may elapse, and these Dry Plates be carried hundreds of miles without deterioration.

The Chemical Outfit for making negatives comprises the following items: Two vulcanite trays, a glass graduate, a set of small scales and weights for weighing chemicals, a ruby lantern, a bottle of Keystone varnish, a package of dry plates and of chemicals, a small quantity of bromide of ammonium, neutral oxalate of potash, protosulphate of iron, hyposulphite of soda, alum, and sulphuric acid.

These chemicals are not dangerous, nor will they injure one who handles them, and they do not emit offensive odors. Silver stains and the disagreeable smell of collodion belong to the old or so-called "wet" process.

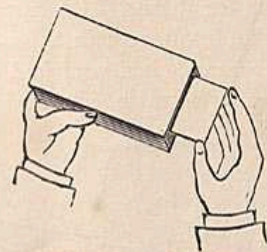


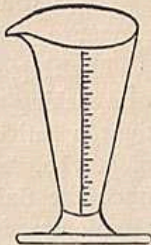
Plate sliding out of Holder.

When a convenient time is found, take the plate holder into the dark room, illuminate it with ruby light, take the sensitive plates out of the holders, being careful not to touch their surface. Hold them by their edges. Place one of the

sensitive plates, film side up, in a tray partly filled with water.



While it remains there, mix this solution: Neutral oxalate of potash, 5 ounces; bromide of potassium, 20 grains; water 20 ounces. If the solution does not turn blue litmus paper red, add a few drops of oxalic acid, enough to make it do so. A graduated glass is used to measure out the liquids. After rinsing the glass out, mix a second solution made as follows: Protosulphate of iron, 5 ounces; water, 20 ounces; and acidulate with it 20 drops of sulphuric acid. Both of these solutions keep well. Now combine a quarter of an ounce of the latter solution with two ounces of the former, and mix them well. Pour off the water in the tray containing the gelatine plates. Be certain not to touch the sensitive side of the plate. Flow the combined developing solution over the plate, and displace, by a touch of your finger, any air bubbles that may form. After a short time traces of the image on the sensitive film will appear.



Graduated Glass.

If they do not, pour the developing solution back into the tray and add a quarter of an ounce more of the iron solution. Pour the strengthened solution over the plate, and look at it intently. In a short time the details of the picture may be dimly seen. Wait patiently till the milky white appearance is changed to a gray color, and then pour off the developer into a developing



bottle, if you have one. Wash the plate in two changes of water. In the unused tray mix a solution composed of 4 ounces of hyposulphite of soda and 20 ounces of water. (Label this tray "Hypo,") and do not use it for any other purpose.) A plate lifter is a convenient device for taking plates out of the solutions or baths. Change the plate to the hypo. tray, and let it remain there until every vestige of the milky white appearance has vanished, even from the under surface of the plate. The plate can now

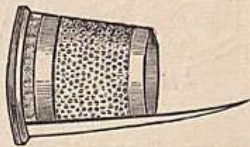
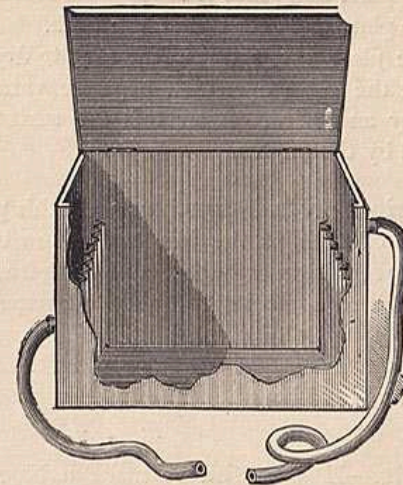


Plate Lifter.

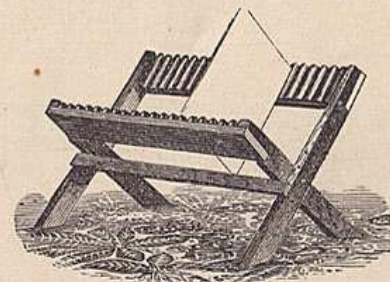
be examined by white light, which has no effect upon it at this stage. Wash it thoroughly. A negative washing box will be found to be of great assistance. If this washing of the plate is not done thoroughly, the hyposulphite of soda crystals will adhere to the plate and mar the picture. Meanwhile rinse

out the tray first in use and partially fill it with a solution consisting of 20 ounces of water and all the alum it will hold in



Negative Washing Box.

solution. Allow the plate to remain in the alum bath five minutes. Cleanse your hands from any adhering soda solution.



Negative Rack.

Again wash the plate, and set it on edge to dry in a negative rack.

All the preceding instructions can be briefly summarized.

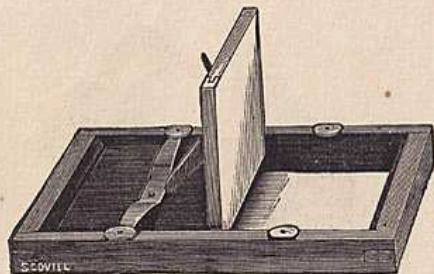
1. Put some sensitive plates into dry plate holders.
2. Make the exposure.
3. After taking a plate out of the holder, place it in a tray filled with water.



4. Drain off the water and put the plate in the mixed developing solution.
5. Wash the plate and place it in the soda solution.
6. Wash the plate and give it an alum bath.
7. Wash the plate and set it in the rack to dry. When perfectly dry, coat the plate over with negative varnish, and have that coating dry and hard. After this the surface of the plate may be touched by the fingers.

**Making Prints from Negatives.**—At this point the work ceases to be one of faith, as the results are now to appear. An outfit of printing requisites comprises a printing frame, a porcelain pan, a vulcanite tray, some ready sensitized paper, a bottle of French azotate, a bottle of chloride of gold, a glass graduate, some hyposulphite of soda, a glass form, a Robinson trimmer, some sheets of fine card-board, a jar of parlor paste, and a bristle brush.

**Blue Prints.**—If you wish to make a blue picture on a white ground, commonly called a "blue print," procure a package of ferro-prussiate paper, place the negative, film side up, in a printing frame. Upon the negative lay a piece of ferro-prussiate



Printing Frame.

paper (this should be handled in a dim light) with the colored side down. Close the back of the printing frame and fasten it by setting the springs. Carry the printing frame to some place where the sunlight will fall upon it, and from time to time examine the print. As soon as the picture is clearly seen, take out the print and throw it into a pan containing clean water. After about twenty minutes remove the print and dry it in the sunlight. The result is a permanent blue and white picture,

which will at least answer for a proof and show the merit of your negative.

**Sensitized Paper Prints.**—In the morning prepare a toning bath sufficient for the prints to be toned that day. Put  $7\frac{1}{2}$  grains of chloride of gold into  $7\frac{1}{2}$  ounces of water. Label the bottle, "Chloride of Gold Solution." Take 1 ounce of French azotate,  $1\frac{1}{2}$  ounces of the chloride of gold solution, and add 6 ounces of water, and you have a toning bath which keeps well. Where the prints do not give the required tone, the bath must be strengthened by adding to it some new solution. Place the glossy side of a sheet of sensitized paper upon the film side of the negative in the printing frame. *Do this in a very dim light.*

The printing has gone far enough when the print looks a little darker than you wish the finished picture to appear. Make as many prints from the negative as you desire. Wash the prints in several changes of water. Take seven ounces of the toning solution and change the prints to the pan containing it, where the prints should be turned over and over to make the toning even. The toning process should go on until the dark part of the pictures have a very faint purplish tint and the white portion is clear. Wash the picture, but preserve the toning solution. The pictures should now be left for twenty minutes in a solution composed of 4



Robinson Trimmer.

ounces of hyposulphite of soda, 1 ounce of common salt,  $\frac{1}{2}$  ounce of washing soda, and 32 ounces of water. This solution should also be prepared a day or two in advance. Give the pictures a final and effectual washing. After they are dried, lay them out one by one and, using the Robinson trimmer, cut them to the desired size. Now spread over the back of each



in turn some parlor paste, and lay them down with the center on the sheets of card-board. This operation is called "Mounting Pictures." Press with a paper cutter upon the pictures and toward their edges until you are satisfied that they will lay flat.

Further more explicit and complete instructions in the making of photographs, how they can be preserved in neat shape, instructions for making stereoscopic and instantaneous pictures, transparencies, magic lantern slides, and photographs of microscopic objects, are to be found in a book which can be obtained for 50 cents per copy, published by the Scovill Manufacturing Company, entitled "How to Make Pictures," by Henry Clay Price.



# CATALOGUE

—OF—

## →\* SCOVILL'S \*←



AMATEUR  
PHOTOGRAPHIC REQUISITES.





Old Style Equipment.

THE  
SCOVILL  
Portable  
DRY PLATE OUTFITS  
FOR AMATEURS.



New Style Equipment.

THE introduction of Dry Plates and the impetus given by them to the cause of Amateur Photography, created a demand for light and compact apparatus that could be easily carried about. That demand we anticipated and first met by the introduction of apparatus especially designed for the use of amateurs.

When we announced an Outfit comprising a Camera, Holder, Tripod, Carrying Case, and a good Lens, for \$10, a new era in Amateur Photography began, and it is destined to be henceforth a popular and cultivating recreation.

The Cameras we make for amateurs are not mere toys—they have been used and approved by eminent photographers. Certainly no apparatus can compare with that made by our American Optical Co.'s Factory, in durability, accuracy and elegance of finish. It is in use in all parts of the globe, and has by merit won this wide-spread reputation. Be not deceived by what is copied after it. See that your apparatus bears the brand of our factory.

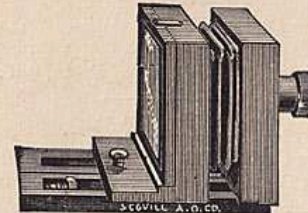
The NE PLUS ULTRA OUTFIT CAMERAS are warranted to produce pictures of the highest excellence; they are accurate in every respect, and are made of white wood, stained in imitation of mahogany, or ebonized.

The 202, 202A, '76, 204 and the Tourists' Pocket Cameras are made of selected Spanish mahogany, finished with a fine French polish. They have all the latest improvements; swing back, folding bed, &c. For compactness, portability and style, there is nothing equal to them.

*Every article enumerated in this Catalogue has our guarantee.*

SCOVILL'S  
NE PLUS ULTRA APPARATUS OUTFITS,

All Articles of which are Warranted Accurate in Every Respect.



NE PLUS ULTRA CAMERA.

OUTFIT A, price \$10.00, comprises

- A VIEW CAMERA with rubber bellows and rigid platform, for making 4 x 5 inch pictures, with
  - 1 Patent Double Dry Plate Holder; also
  - 1 Taylor Folding Tripod.
  - 1 "Waterbury" Achromatic Nickel Plated Lens.
  - 1 Carrying Case.

OUTFIT B, price \$12.00, comprises Camera, Lens, &c., similar in style to Outfit A, but for pictures 5 x 8 inches in size.

OUTFIT C, price \$18.50, comprises

- A VIEW CAMERA for making 5 x 8 inch pictures.
 

This Camera is constructed so as to make either a *Picture* on the full size of the plate (5 x 8 inches), or by substituting the extra front (supplied with the outfit) and using the pair of lenses of shorter focus, it is admirably adapted for taking *stereoscopic* negatives; also, by the same arrangement, two small pictures, 4 x 5 inches each, of dissimilar objects can be made on the one plate. Included in this outfit are also

  - 1 Patent Double Dry Plate Holder.
  - 1 Large "Waterbury" Achromatic Nickel Plated Lens.
  - 1 Pair "Waterbury" Achromatic Matched Stereoscopic Lenses.
  - 1 Taylor Folding Tripod.
  - 1 Carrying Case.

OUTFIT D, price \$14.00, comprises Camera, Lens, &c., similar in style to Outfit A, but for pictures 6½ x 8½ inches in size.

OUTFIT E, price \$28.00, comprises Camera, Lens, &c., similar in style to Outfit A, but for pictures 8 x 10 inches in size.

EQUIPMENT A-A.

- Consisting of APPARATUS OUTFIT A, with
    - 1 Scovill Focusing Cloth.
    - 1 W. I. A. Ruby Lantern.
    - 1 dozen 4 x 5 Dry Plates.
- Complete for field service, Price, \$12.25.



### EQUIPMENT B-B.

Consisting of APPARATUS OUTFIT B, with the additional articles enumerated in A-A. (Dry Plates 5 x 8 size.)  
Complete for field service, Price, \$15.00.

### EQUIPMENT C-C.

Consisting of APPARATUS OUTFIT C, with the additional articles mentioned in Equipment A-A. (Dry Plates 5 x 8 size.)  
Complete for field service, Price, \$21.50.

### EQUIPMENT D-D.

Consisting of APPARATUS OUTFIT D, with the additional articles enumerated in A-A. (Dry Plates 6½ x 8½ inches.).....Price, \$18.00.  
Where sensitive Plates are taken to a photographer's and there developed, printed from, and mounted on card-board, any of the above Equipments lack nothing that is essential. We recommend the amateur to finish his own pictures, and hence to procure one of the following equipments.

### EQUIPMENT A-A-A.

Complete in every Requisite for making the Highest Class Pictures,  
Lacking nothing for View Taking, Development and the Printing and Mounting of Photographs.

Consisting of Apparatus Outfit A.....\$10 00  
Also 1 Chemical Outfit 4 x 5 (see page 19)..... 6 50  
" 1 Sensitized Paper Outfit, 4 x 5 (see page 20)..... 4 75

PRICE, \$20.50.

### EQUIPMENT B-B-B.

Complete in every Requisite for making the Highest Class Pictures.  
Consisting of Apparatus Outfit B.....\$12 00  
Also 1 Chemical Outfit 5 x 8 (see page 19)..... 7 50  
" 1 Sensitized Paper Outfit, 5 x 8 (see page 20)..... 6 00

PRICE, \$25.00.

### EQUIPMENT C-C-C.

Complete in every Requisite for making the Highest Class Pictures.  
Consisting of Apparatus Outfit C.....\$18 50  
Also 1 Chemical Outfit 5 x 8 (see page 19)..... 7 50  
" 1 Sensitized Paper Outfit (see page 20)..... 6 00

PRICE, \$31.50.

### EQUIPMENT D-D-D.

Consisting of Apparatus Outfit D.....\$14 00  
Also 1 Chemical Outfit (see page 19)..... 9 00  
" 1 Sensitized Paper Outfit (see page 20)..... 7 00

PRICE, \$30.00.

## American Optical Company's Apparatus Outfits.

This apparatus is manufactured in New York City under our immediate personal supervision; and, as we employ only highly skilled workmen, and use nothing but the choicest selected materials, we do not hesitate to assert that the products of our factory are unequalled in durability, excellence of workmanship, and style of finish. This fact is now freely conceded not only in this country but throughout Great Britain, Germany, Australia, South America, and the West Indies.

### OUTFIT No. 202, price \$25.00, 22

CONSISTS OF

A MAHOGANY POLISHED CAMERA for taking pictures 4 x 5 inches, with *Folding Bellows Body*, single swing, hinged bed, and brass guides. It has a shifting front for adjusting the sky and foreground, with  
1 Daisy Double Dry Plate Holder; also  
1 Canvas Carrying Case.  
1 Scovill Extension Tripod, No. 1 (for description, see page 24).

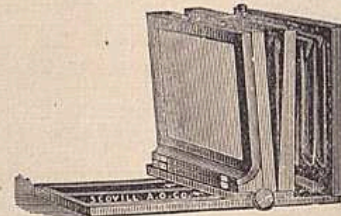
### OUTFIT No. 202 A, price \$26.50, 24

The same as No. 202, but with Camera for taking pictures 4½ x 5½ inches.

### OUTFIT No. 203, price \$38.00, 30

CONSISTS OF

A FOLDING MAHOGANY CAMERA, fully described in the American Optical



Company's Catalogue, and well known as the '76 Camera (see illustration). It is adapted for taking 5 x 8 inch pictures, and also for stereoscopic views—together with

1 Daisy Double Dry Plate Holder; also  
1 Canvas Carrying Case.  
1 Scovill Extension Tripod, No. 2.

### OUTFIT No. 204, price \$46.00, 42

CONSISTS OF

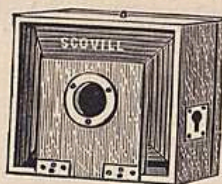
A FOLDING MAHOGANY CAMERA of finest style and finish for taking 6½ x 8½ inch pictures, with  
1 Daisy Dry Plate Holder; also  
1 Canvas Carrying Case.  
1 Scovill Extension Tripod, No. 3.

For larger or special View Cameras, consult the American Optical Company's Catalogue.

We recommend the purchase and use with the above Outfits of a Lens or Lenses selected from the list on pages 16 and 17.  
For Chemical and Sensitized Paper Outfits to be used with the above, refer to pages 19 and 20.



# Tourists' Pocket Outfits.

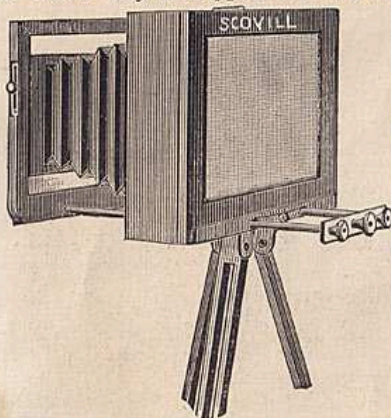


TOURIST'S POCKET CAMERA FOLDED.

(Extract from PHOTOGRAPHIC TIMES, March, 1883.)

AMERICAN OPTICAL CO.'S TOURIST'S POCKET CAMERA.

"This camera, of which a cut is appended, may be called new, as it is now advertised for the first time; but several of these cameras both of 4 x 5 and 5 x 8 sizes, have been in use for months, and have given perfect satisfaction. When folded up, a 4 x 5 Tourist's Camera measures but 5 1/4 x 6 1/2 x 2 inches, and it is without any projecting parts, pins or screws, so that it may be slipped into and not tear a gentleman's pocket. The



TOURIST'S POCKET CAMERA IN USE.

rods which are used to move forward the front of the camera are easily detached from it and drawn out of the bed. The connector at the other end of the rods is just as readily unset. To replace these three parts when the camera is brought out for service, requires no more time or skill than to take them off. They are nicely adjusted, and are polished and nickel plated, so that they add to the handsome appearance of the camera, and contrast well with its polished mahogany surface and the purple hue of its bellows. The weight of this camera and its dry plate holder (but 1 1/2 pounds for the 4 x 5 size) is on the center of the tripod. There is less liability of vibration where the center of gravity is located as in this camera. In focusing, the front of the camera and the lens are pushed forward, thus avoiding any disarrangement of the focusing cloth. When the focus is obtained, further movement of the lens is checked or stopped by means of a screw acting on a spring, which is pressed at the ends against the focusing rods."

**Tourist's Pocket Outfit No. 0206.**—4 x 5 Tourist's Pocket Camera, with  
1 Daisy Double Dry Plate Holder.  
1 Scovill Extension Tripod No. 1.  
1 Canvas Carrying Case with Shoulder Strap.

**Price, complete, \$33.00.**

**Tourist's Pocket Outfit No. 0207.**—5 x 8 Tourist's Pocket Camera, with  
1 Daisy Double Dry Plate Holder.  
1 Scovill Extension Tripod No. 2.  
1 Canvas Carrying Case with Shoulder Strap.

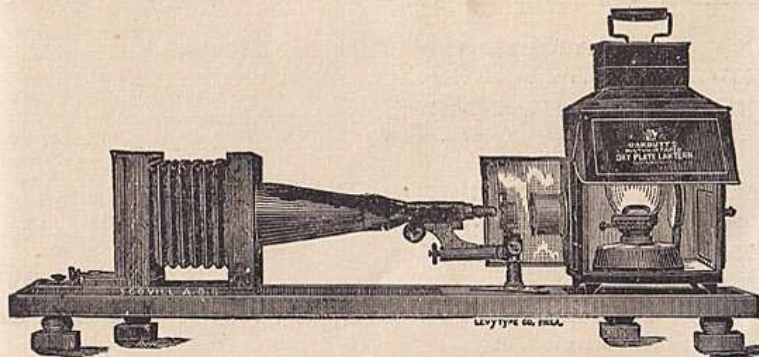
**Price, complete, \$38.00.**

We recommend the purchase and use with the above Outfits of a Lens or Lenses selected from the list on pages 16 and 17.  
For Chemical and Sensitized Paper Outfits to be used with the above, refer to pages 19 and 20.

# SCOVILL'S OUTFIT For PHOTOGRAPHING with the MICROSCOPE.

Photographing with the microscope has hitherto been accomplished by the aid of elaborate and costly apparatus, and been applied chiefly to making illustrations for scientific magazines. The process used, that of wet collodion in connection with sunlight, involved the procurement of an expensive heliostat to produce a steady illumination, for with any less powerful light the exposure would necessarily be so prolonged that the coating of the plate would dry and become useless. Now all this is changed, for with the modern improvements in photography which are the result of the introduction of gelatine dry plates, the photographing of microscopic objects becomes as easy of accomplishment as the photographing of the beautiful and visible in nature is with the popular amateur outfits.

The scientist and microscopist, instead of spending hours in making imperfect drawings, aided by the camera lucida, may in a few minutes, with the assistance of photography, produce a more perfect representation of a minute object than it is possible for the hand of man to do, working conjointly with the eye. Not only can an enlarged image of a microscopic object be formed for illustration, but professors in colleges will find it a ready means to produce negatives of a suitable size from which may be made transparencies or magic lantern slides for exhibition to classes or the public.



If this is done in the daytime, a room from which all white light is excluded should be selected; but if used at night, as in most cases it would be, the operations may all be performed in the midst of a family group for their interest and amusement, and to impart to them knowledge of the minute life or organisms of the world which the microscope alone can reveal.

## Scovill's Photomicroscopic Equipment,

— CONSISTING OF —

- 1 Scovill Special Half Plate Camera.
- 1 Multum in Parvo Lantern, with Double Condenser.
- 1 dozen 4 1/2 x 5 1/2 size B Keystone Plates to make Negatives; also
- 1 dozen 3 1/2 x 4 1/4 size A Plates for Transparencies.

**Price, Complete, \$18.00.**

The presumption is that you are provided with a microscope. If not, we recommend the purchase of one from a regular dealer in microscopical goods.

Circular containing directions for use sent with each outfit.







## BOOKS OF INSTRUCTION.

### "HOW TO MAKE PICTURES,"

By HENRY CLAY PRICE.

(Scovill's Photo. Series No. 4.)

The A B C of Photography.

50 Cents per Copy. Six Thousand Copies Sold in Six Months.

*It contains simple and full instruction in Amateur Photography.*

### THE PHOTOGRAPHIC AMATEUR.

By J. TRAILL TAYLOR.

(Scovill's Photo. Series No. 1.)

Price, Cloth Bound, 75 Cents; Illuminated Cover, 50 Cents.

A Book of Reference for the Young Photographer,  
Either Professional or Amateur.

AN ELEMENTARY COURSE IN

### "DRY PLATE PHOTOGRAPHY,"

IN TWELVE LESSONS,

—AS—

SCOVILL'S PHOTO. SERIES No. 6.

*Sent Post-paid on Receipt of 25c.*

AN ELEMENTARY COURSE IN

### PHOTOGRAPHIC CHEMISTRY,

IN TWELVE LESSONS,

As SCOVILL'S PHOTO. SERIES No. 9.

25 CENTS, POST-PAID.

### WILSON'S PHOTOGRAPHICS.

THE NEWEST AND MOST COMPLETE

PHOTOGRAPHIC LESSON-BOOK.

COVERS EVERY DEPARTMENT.

352 Pages. Finely Illustrated. Only \$4.00.

By EDWARD L. WILSON.

## Detailed Price List of Accessories.

### SCOVILL'S PURE CHEMICALS

AND ACCESSORIES,

FOR MAKING NEGATIVES.

We offer for use with any Outfit to take pictures 4 x 5 inches the following goods packed securely in a wooden case:

2 4 x 5 Japanned Pans,	1 lb. Alum,
1 4 oz. Graduate,	1 oz. Sulphuric Acid,
1 set 5 in. jap. Scales and Weights,	1 bottle Negative Varnish,
1 oz. Bromide Ammonium,	1 doz. 4 x 5 Dry Plates,
1 lb. Neutral Oxalate Potash,	1 Scovill Note Book,
1 " Protosulphate Iron,	1 " Focusing Cloth,
1 " Hyposulphite Soda,	1 W. I. A. Ruby Lantern.

PRICE, COMPLETE, \$6.50.

For use with any 5 x 8 Outfit we supply the same goods, with the exception of the substitution of 5 x 8 Pans and Plates for the 4 x 5 size.

PRICE, COMPLETE, \$7.50.

6½ x 8½ CHEMICAL OUTFIT, PRICE, \$9.00.

### BLUE PRINTS.

S. P. C.

Ferro-Prussiate Paper Outfit for Printing and Mounting 4 x 5 Blue Print Pictures.

1 4 x 5 Printing Frame.	1 Glass Form (for trimming prints).
1 4½ x 5½ S. P. C. Vulcanite Pan.	1 Robinson's Straight Trimmer.
3 dozen 4 x 5 S. P. C. Ferro-Prussiate Paper.	½ Pint Jar Parlor Paste.
2 dozen sheets 6½ x 8½ Card-board.	1 1 inch Paste Brush.

Price complete, \$2.80. Securely packed in a Paper Box.

S. P. C.

Ferro-Prussiate Paper Outfit for Printing and Mounting 5 x 8 Blue Print Pictures.

This Outfit is like the one above, but with Printing Frame, Vulcanite Tray, Ferro-Prussiate Paper and Card-board adapted to 5 x 8 Pictures.

Price complete, \$3.50. Securely packed in a Paper Box.

6½ x 8½ Ferro-Prussiate Paper Outfit. Price, \$4.25.



**S. P. C.**

Sensitized Albumen Paper Outfit for Printing, Toning, Fixing and Mounting  
4 x 5 Pictures.

- |  |                                     |
|--|-------------------------------------|
| 1 4 x 5 Printing Frame.                          | 1 lb. Hyposulphite of Soda.         |
| 1 5 x 7 Porcelain Pan Deep.                      | 2 dozen sheets 6½ x 8½ Card-board   |
| 1 4½ x 5½ S. P. C. Vulcanite Tray.               | with Gilt Form.                     |
| 2 dozen 5 x 8 S. P. C. Sensitized Albumen Paper. | 1 ½ Pint Jar Parlor Paste.          |
| 1 bottle French Azotate, } for                   | 1 1½ inch Bristle Brush.            |
| 1 " Chlor. Gold, 7½ gr. } toning.                | 1 Glass Form (for trimming prints). |
| 1 2 Ounce Graduate.                              | 1 Robinson's Straight Trimmer.      |

Price complete, \$4.75. Securely packed in a Paper Box.

**S. P. C.**

Sensitized Albumen Paper Outfit for Printing, Toning, Fixing and Mounting 5 x 8 Pictures.

This Outfit is like the one above, but with Printing Frame, Vulcanite Tray, Sensitized Paper, and Card-board adapted for 5 x 8 Pictures.

Price complete, \$6.00. Securely packed in a Paper Box.

6½ x 8½ Sensitized Paper Outfit. Price, \$7.00.

**AMATEURS' PRICE LIST**

— OF —

**Photograph Cards.**

**FOR MOUNTING VIEWS.**

*PLAIN CARDS, WHITE OR GRAY.*

Per Package of 25.

- |                    |        |
|--------------------|--------|
| No. 2. 9 x 11..... | \$0 45 |
| " 2. 6½ x 8½.....  | 27     |

*PLAIN CARDS, WITH ORNAMENTED BORDERS.*

Per Package of 25.

- |   |        |
|---|--------|
| No. 2. 10 x 12, White or Gray, 6 x 8 Opening..... | \$1 00 |
| " 2. 9 x 11, " " 5 x 8 " .....                    | 80     |
| " 2. 6½ x 8½, " " 4 x 5 " .....                   | 60     |
| " 9. 9 x 11, Black, 5 x 8 " .....                 | 1 40   |
| " 9. 6½ x 8½, " 4 x 5 " .....                     | 87     |

*BLACK CARDS, ROUND CORNERS, With Plain*

*Gilt Border around the Edge.*

Per Package of 25.

- |                      |        |
|----------------------|--------|
| No. 13. 6½ x 9½..... | \$1 18 |
| " 13. 6½ x 8½.....   | 1 00   |

**FOR MOUNTING PORTRAITS.**

*CARD AND CABINET SIZES, ROUND CORNERS.*

Per Package of 50.

- |                                      |        |
|--------------------------------------|--------|
| No. 5. White or Gray, Card size..... | \$0 21 |
| " 5. " " Cabinet size.....           | 45     |

*CARD AND CABINET MOUNTS, ROUND CORNERS.*

*Prepared for Mounting with Slec's Preparation.*

Per Package of 50.

- |  |        |
|--|--------|
| No. 35. White or Amber, Card size..... | \$0 21 |
| " 35. " " Cabinet size.....            | 50     |

*BLACK CARDS WITH GILT BEVELED EDGES.*

Per Package of 25.

- |                         |        |
|-------------------------|--------|
| No. 43. Card size.....  | \$0 30 |
| " 43. Cabinet size..... | 56     |
| " 26. 4 x 8½.....       | 85     |

**STEREOSCOPIC CARDS,**

*ROUND CORNERS, FOR STEREOSCOPIC PICTURES,*

*No. 5 Light Buff or Gray.*

Per Package of 50.

- |        |        |        |        |
|--------|--------|--------|--------|
| 3½ x 7 | 4 x 7  | 4½ x 7 | 4½ x 7 |
| \$0 37 | \$0 42 | \$0 45 | \$0 50 |

All of the above Cards are from pure Stock (A. M. Collins, Son & Co.), which we guarantee will not injure the prints, and are entirely free from soda.



SCOVILL'S

## Ready Sensitized Albumen Paper.

This Paper was expressly manufactured for and introduced by us to give to those who have not the skill, time, inclination or appliances to sensitize photographic paper preparatory to printing, an article of the finest quality and of uniform sensitiveness.

### PRICE LIST.

SIZE.		PER DOZEN.
4 x 5 inches, in light-tight rolls, 2 dozen.....		\$0 20
5 x 8 " " " 2 " .....		37½
18 x 22 " " " 1 " .....		3 00

To save loss, rolls are not broken.

Tin Cases to hold one dozen, 18 x 22 Sensitized Paper, 30 cents each.  
 " " three " " " 50 "

S. P. C.

## FERRO-PRUSSIATE PAPER,

For Making Blue and White Pictures.

The prestige of Photographic Papers manufactured in Europe is so thoroughly conceded, that the supply is drawn from that source.

Recognizing this well known fact, we have our Ferro-Prussiate Paper made expressly for us there. Our brand S. P. C. is a sure index of superiority in texture, the paper is better wrapped than any other, and is noticeably free from spots, streaks or flaws.

This paper is extremely simple in its manipulation, and therefore very convenient for making proofs from negatives. It is also adapted for the reproduction of *Mottoes, Plans, Drawings, Manuscript, Circulars*, and to show representations of Scenery, Boats, Machinery, &c., for an engraver to copy from. The rapidity with which a print can be made with this paper is for numerous purposes, and to men in some occupations, a very great recommendation in its favor.

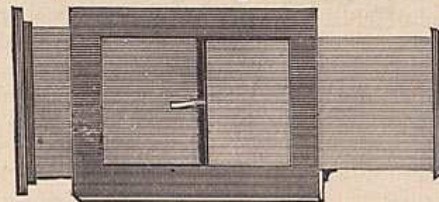
### PRICE LIST.

SIZE.		PER DOZEN.
4 x 5 inches, in 3 dozen light tight parcels.....		\$0 15
5 x 8 " " 3 " " .....		30
6½ x 8½ " 3 " " .....		40
8 x 10 " 3 " " .....		50

To save loss, parcels are not broken.

In full rolls of 11 yards each, 29 inches wide, \$5.00 per roll.

## "New Style" Dry Plate Holder.

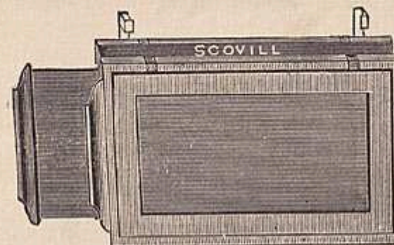


(Patented.)

Our "NEW STYLE" Double Dry Plate Holders are the best made, and answer the demand in dry plate work for something that will exclude all light. Prices of EXTRA Patent Double Dry Plate Holders are as follows:

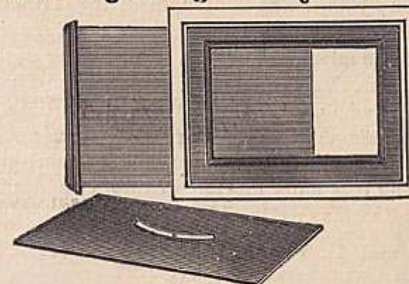
4 x 5 Holders for two Plates.....	each, \$2 15
4½ x 5½ " " " .....	2 15
5 x 8 " " " .....	2 93
6½ x 8½ " " " .....	4 50

## The Daisy Dry Plate Holder.



"This holder is a Daisy." The frequent repetition of this exclamation fixed the name by which our new holder is designated. It has the great merit of being lighter and of occupying less space than any other substantial holder that has ever been devised. Although constructed to hold two plates, it is not thicker than a single holder. The Daisy Holder opens like a book when the dry plates are being put into or taken out of it, and is so arranged that light cannot penetrate through from one side to the other. There are no projecting screws on this holder. What supplies their place is simple and more effective. The slides have no catches, as they are unnecessary. Price list same as "New Style."

## The Flammang Single Dry Plate Holder.



(Patented.)

Arranged to take kits of lesser size. Price list same as "new style."

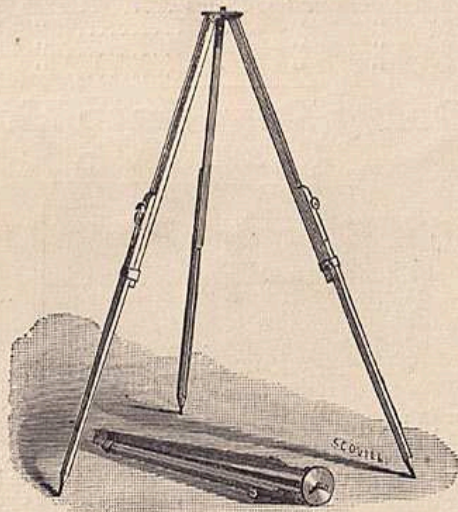


The Holders described on the previous page, for use in very hot or cold, or very moist climates, should be made of cherry with zinc slides. In fact, the hardwood Holders are very desirable anywhere.

4 x 5	Cherry Holder, any pattern	.....	\$2 50
4½ x 5½	“ “ “	.....	2 50
5 x 8	“ “ “	.....	3 50
6½ x 8½	“ “ “	.....	5 50

## The Scovill Extension Tripod.

Patent Applied for.

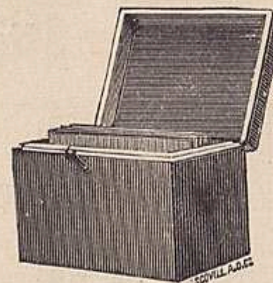


This Tripod possesses special advantages. It can be set up, ready for use, quicker than any other, and with less trouble. By turning the brass buttons shown in the accompanying illustration, the legs may "in a twinkling" be extended to the desired length, and fastened. When this Tripod is placed on uneven ground, the camera it supports may be brought to the proper level by simply adjusting the length of the Tripod legs. Another commendable feature of the Scovill Extension Tripod is, that it has no detachable parts to be misplaced or lost. Combining as it does firmness, strength and lightness, this Tripod must at once find favor with the professional view taker, who very often wastes valuable time, or loses opportune moments in placing the Tripod legs and changing their position to include just what is wanted in a picture, and to level the camera. The artist for a sketching trip finds the top of this Tripod a very convenient place to fasten his Easel, as well as his camera.

No. 1, for 1-4 and 4 x 5 Cameras	.....	each,	\$3 50
" 2, " 5 x 8 Cameras	.....	"	4 00
" 3, " 6½ x 8½ "	.....	"	6 00

Larger sizes made to order.

## NEGATIVE BOXES

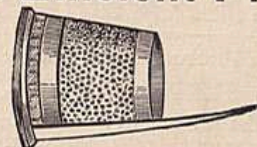


FOR HOLDING TWENTY-FOUR PLATES EACH.

3½ x 4½	.....	Price, each,	\$0 70	5 x 8	.....	Price, each,	\$0 95
4 x 5	.....	"	75	6½ x 8½	.....	"	1 05

Light-tight Negative Boxes with Lock and Key supplied at double the above list prices. Special sizes to hold any number of plates made to order.

## Scovill's Efficient Plate Lifter.



Described in the "British Journal Almanac for 1883."

This Plate Lifter is very nearly like an ordinary open end Thimble with a Pointed Piece of Metal soldered securely to it, as shown in the illustration. Where a number of plates are developed in one dish, this Plate Lifter is not only a convenience, but quite a necessity.

Being the largest makers of thimbles in the country, we are enabled to offer these Plate Lifters for the nominal price of 15 cents each.

## Scovill Developing Bottle

For Holding

Stock Solutions.

EITHER

Or Carbonate of Soda used

Ferrous Oxalate Developer

with Pyro. Developer.



SUPPLIED WITH PURE CLOTH RUBBER TUBING (GUARANTEED).

Bottle to hold one pint of solution	.....	each,	\$0 60
" " one quart	.....	"	75
" " two quarts	.....	"	1 00
" " one gallon	.....	"	1 25

LABEL WITH DIRECTIONS FOR USE ON EACH BOTTLE.



# AMERICAN OPTICAL CO.'S Camera Reversing Attachments

No. 0, for 4 x 5  
Camera, \$4.

No. 1, for 5 x 8  
Camera, \$5.



No. 2, for 6½ x 8½  
Camera,  
\$7.50.

These Attachments are Immovably Fixed to the Top of Tripods.

(Extracted from PHOTOGRAPHIC TIMES for April.)

## MEANS FOR REVERSING CAMERAS.

"When the means for the reversal of a camera are brought into notice, it is a fair test to ascertain how quickly the movement can be consummated; is the mechanism intricate or the reverse; and, finally, does it aid in picture-taking, or, per contra, impair the worth of the production.

"When the new reversing attachment devised at the American Optical Co.'s factory is seen, no manual of instruction need be consulted to ascertain how it is applied or worked. This is obvious. A cut does not convey an idea of its merit thus readily.

"Two brass plates, hinged at the end, are opened to form a right angle, and held rigidly in that position, or are brought together and tightly clamped by a rod with a hooked end, which plays through an opening in the brass plate secured fast to the tripod top. Upon the upper plate the camera is set or unset at pleasure. Whether in the vertical or horizontal position, the camera is held so firmly as to be secured against vibration. The reversal can be effected in an instant."

## SCOVILL'S WASHING BOXES.

### PRICE LIST.

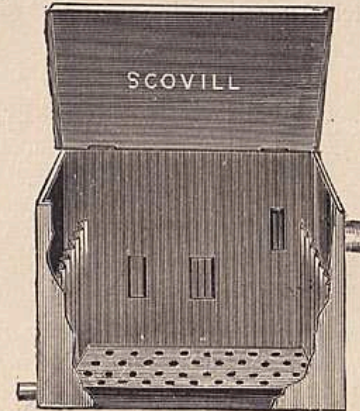
No. 1, for 3½ x 4½ plates.....	\$1 20
" 2, " 4 x 5 " .....	1 25
" 3, " 4½ x 5½ " .....	1 30
" 4, " 4½ x 6½ " .....	1 35
" 5, " 5 x 7 " .....	1 40
" 6, " 5 x 8 " .....	1 50
" 7, " 6½ x 8½ " .....	1 75
" 8, " 8 x 10 " .....	2 25
" 9, " 10 x 12 " .....	3 00

LARGER SIZES MADE TO ORDER.

DECORATED NEGATIVE WASHING BOXES, 40c. additional for each size.

# SCOVILL'S ADAPTABLE WASHING BOX.

PATENT APPLIED FOR.



Besides enlarging the upper spout, which is the outlet of our Negative Washing Boxes, we have introduced a new pattern of 8 x 10 size with two features which must commend themselves as being very desirable. A false bottom with perforations in every square inch has been put in this Box. The receiving pipe conducts the water underneath the false bottom. The result accomplished by this form of construction is to prevent the water passing through the Box with too great force. Not only is it checked, but it is also equally distributed so that every plate and each portion of a plate is washed equally.

This Adaptable Box is also improved by being arranged for 6½ x 8½, 5 x 8 and 4 x 5 Dry Plates in addition to the 8 x 10 size.

Price each.....\$2.75.

## TRANSPARENCIES.

Transparencies are an elegant adornment for the home. Hitherto they have been sold at very high prices, as it was not known how readily such pictures can be made by any one. Consult chapter xii., page 53, second edition of "How to Make Pictures," and see if such is not the fact.

Transparency Frames are made plain or with ornamental border; with rings on the side to make them hang horizontally, or with rings on the end to allow them to hang vertically. In ordering, please specify which pattern is desired.

### PRICE LIST.

SIZE.	EACH.
4 x 5 inch Transparency Frames.....	30c.
4½ x 5½ " " .....	33c.
5 x 8 " " .....	35c.
6½ x 8½ " " .....	40c.
8 x 10 " " .....	50c.
10 x 12 " " .....	60c.



To give Transparencies a finish, they are backed when put into Transparency Frames with a piece of Ground Glass, either plain or with etched margin. We offer this glass at the following prices:

SIZE.	PER LIGHT.	PER LIGHT.
4 x 5 Ground Glass, Plain,	20c.	Etched Margin, 50c.
4½ x 5½ " " "	22c.	" " 50c.
5 x 8 " " "	25c.	" " 55c.
6½ x 8½ " " "	30c.	" " 60c.
8 x 10 " " "	35c.	" " 70c.
10 x 12 " " "	50c.	" " 80c.

Parties having Old Plates can utilize them, after the film has been cleaned off, to protect the picture side of a Transparency, over which they have flowed some Ground Glass Substitute.

Ground Glass Substitute, 50c. per Bottle.

This, naturally, should be put on after the Transparency is dry. Do not use heat to dry it. In short, proceed as when varnishing a negative. When the Ground Glass Substitute is dried, protect this surface with the plain glass and bend down the edge of the Transparency Frame.

## CRAPEAU'S ACTINOMETER,

PRICE 50 CENTS.

Both the amateur and the professional view taker are often puzzled to determine the length of exposure that should be given under varying atmospheric conditions and at different hours of the day. Experience and a carefully kept note-book are both helps, but they do not insure against over- or under-exposure. Crapeau's Actinometer is a simple device to measure the force and power of light, and by this means to determine the duration of an exposure. Explicit directions for use accompany every one that is sold. They are made of vest pocket size.

\*—S. P. C.—\*

## Vulcanite Developing Trays

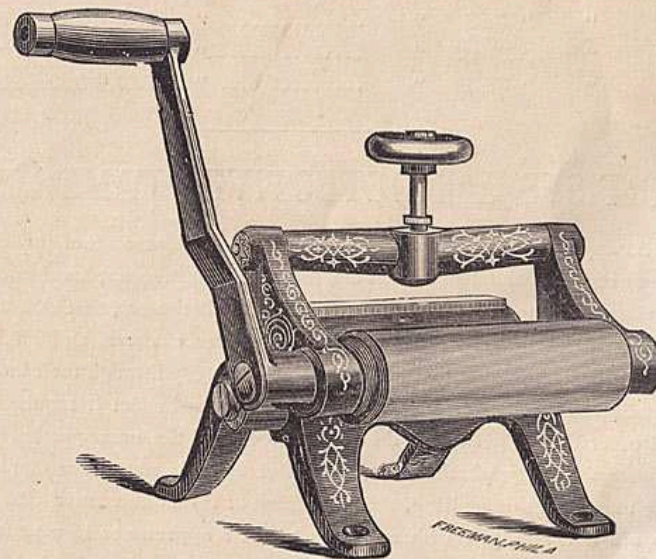
(MADE OF SELECTED METAL)

— FOR —

### Dry Plate Photography.

SIZE.	PRICE EACH.
4½ x 5½ inches.....	20 cents.
5½ x 8½ " .....	25 "
7 x 9 " .....	30 "
9 x 11 " .....	40 "

## BURNISHERS.



— PRICES —

6 inch roll.....	\$15 00
10 " .....	25 00

If by accident, or otherwise, the burnishing tool becomes defaced, it can be replaced with a new tool at a mere nominal cost, and the machine is as good as new.

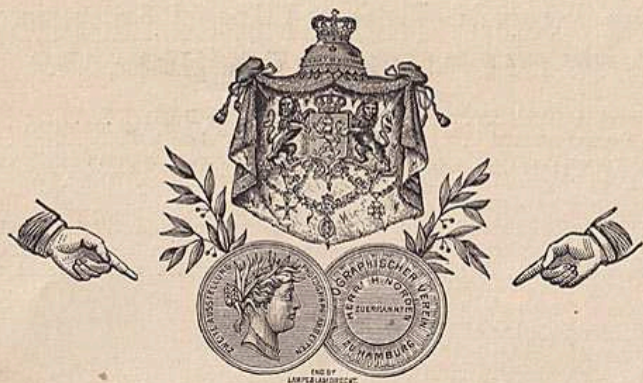




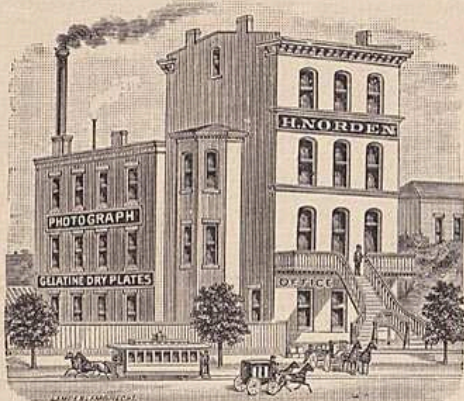








## H. NORDEN'S EXTRA RAPID GELATINE DRY PLATES



Our new building, just completed, is the largest and best appointed establishment in that line on the continent.

With increased facilities and improved machinery we are able to execute orders with promptness and dispatch.

For sensitiveness, brilliancy and rapidity, our plates excel those of any other manufacture. We guarantee our plates to be *the best in the world.*

### PRICE LIST.

3½ x 4½ per doz. \$0 60	5 x 8 per doz. \$1 75	14 x 17 per doz. \$10 00
4 x 5 " 0 90	6½ x 8½ " 2 30	17 x 20 " 17 00
4½ x 5½ " 1 00	8 x 10 " 3 40	18 x 22 " 20 00
4½ x 6½ " 1 20	10 x 12 " 5 00	20 x 24 " 24 00
5 x 7 " 1 55	11 x 14 " 6 50	

We warrant all our plates to be perfect, and will answer any complaints if the number of emulsion as marked in every box is stated to us, and also the mode of development.

### H. NORDEN'S GELATINE DRY PLATE WORKS,

Ed. WUESTNER,  
Business Manager.

St. Louis, Mo.

FOR SALE BY ALL DEALERS.

Sole Agents, SCOVILL MANUF'G CO.

## FORMULAS AND DIRECTIONS FOR H. NORDEN'S ST. LOUIS EXTRA RAPID GELATINE DRY PLATES.

### PYROGALLIC ACID DEVELOPMENT.

#### STOCK SOLUTION.

No. 1.—Alcohol (absolute) 15 ounces.	No. 2.—Water, 14 ounces.
Pyrogallie Acid, 1 ounce.	Strongest Aqua Ammonia 1½ "
	Bromide of Ammonium, 380 grains.

#### DAILY USE.

A.—1 Part of No. 1	B.—1 Part of No. 2.
9 " Water.	9 " Water.

The bottles containing the solutions should be tightly corked.

#### NORMAL DEVELOPER.

1 Part A.	1 Part B.
-----------	-----------

Fill the developing dish with cold clear water and put the plate from the tablet in it so that the plate is entirely covered with water, then place a cover on it. For a plate 8 x 10 inches, mix in a wide mouth bottle 2 ounces of A and 2 ounces of B.

After the plate has remained one to two minutes in the water, pour off the same; then pour the developer evenly over the plate, keeping the dish in gentle motion. If air bubbles set on the plate, touch them lightly with the finger tip or with a soft hair brush.

Watch the developing carefully, without exposing it more to the red light than is absolutely necessary. Do not take the plate out of the dish during the development for the purpose of looking through, but try to get accustomed to judge the intensity of the picture by the advancing red light in the dish either to the gray or black or light details. Let the plate remain in the dish until the full detail in the shadows is visible. As by the wet process, the highest lights must appear first, and afterward all details to the darkest shadow.

If the negative appears equal in all its parts at once, it is a sign of over-exposure. If the plate was under-exposed, the negative shows after two minutes' development no detail in shadows. In both cases the plates ought to be rejected, as the time and expense are more than a new exposure would cost.

If not sure that the time of exposure was correct, or if a second exposure cannot take place, manage as follows:

Mix for a plate 5 x 8 inches, ¼ ounce No. A with 1½ ounce of water and ½ ounce of No. B, commencing with this weak developer. If after a minute's development the picture **does not appear, the time of exposure was too short.** In this case pour away the developer and use the Normal developer; if the negative desires still more intensity, the time of exposure was by far too short, and it is not advisable to try a stronger developer, as it will generally cause fog. Be careful not to expose too short, as an under-exposed plate produces rough pictures.

If you know the negative was under-exposed, commence with mixing 1 part of No. A with 2 parts of No. B, and by using this solution the developer will in nearly all cases develop properly. This last solution mixed of equal parts of No. A and of No. B, will bring out the picture clear and brilliant.

No. A produces intensity and No. B produces the detail without giving much intensity to the lights.

Should the negative not show the desired intensity, even if you add less of No. B, you can remedy the evil by mixing the Stock Solution with Bromide of Ammonium.

Every one must regulate his developer by experience.

After the development is completed in all its parts, take the plate out of the dish, wash carefully under frequent changes of water, until the gelatine film accepts the water entirely, and put the plate in a fixing bath of 10 per cent. Hyposulphite of Soda. Leave the plate, after all brom. silver has disappeared, a few minutes in the natron, and rinse well with plenty of water. You cannot give too much attention to a thorough washing of the plates.

To give the negative a gray color, pour immediately and repeatedly a dissolution of one ounce of water with ten drops of diluted nitric acid over the plate, after taking it from the fixing bath, wash again and the plate can be set aside to dry exposed to daylight.

The soaking of the smaller plates up to 8 x 10 before developing, is not absolutely necessary, and the developer may be poured directly on the dry plates. Larger plates should never be developed without soaking them before, which prevents the gelatine film from turning yellow.

Keep all the solutions cool during hot weather. After the plates are fixed, put them in 10 per cent. Alum solution and then wash them carefully.

There is no reason for apprehension that the film might turn yellow after this process.

In negatives of little intensity the yellowish color should not be removed, as the same is very essential for procuring a brilliant and powerful copy. Under a correct treatment of the developing process, the negative will always produce the required intensity.

Should the negative appear too thin, it can be strengthened as follows:

#### STRENGTHENING SOLUTION.

No. 1.—A saturated solution of Bichloride of Mercury in water. | No. 2.—6 ounces of water.



# THE BEEBE GELATINE DRY PLATES,

MANUFACTURED BY

THE CHICAGO DRY PLATE & MFG. CO.,

2449 Cottage Grove Ave., Chicago.

## Directions for the Management of Beebe's Gelatine Dry Plates.

To successfully work these plates, follow the instructions carefully, and until you have mastered them, do not find any fault with the plates or begin any innovations in method of working them.

Before opening the package of plates, see that all White Light is rigidly excluded from your dark room; but in its place you can have all the ruby light that you want, and I advise that you take two sheets of ruby paper and make an opening for them, then you can see what you and your plates are doing. Little lamps and tiny windows are a mistake—in the quality, not the quantity, of light lies the danger of fog.

The edges of your negative which have not been exposed will be a sure test. They must, when cut, be like clear glass, or your light is wrong.

I take it for granted that your camera and holder are in perfect condition. There must be no cracks to leak light, nor any silver on the holder to get on the plate.

Now, for a trial, take one of the plates from the box, dust it, put into holder, and make an exposure; give one second, five seconds and ten seconds on the same subject and with the same light.

Returning to the dark room, where we have the following developer ready:

### SOLUTION No. 1.

Water.....1 gallon.  
Carbonate of potash (salts of tartar).....1 pound.  
Oxalic acid.....1 pound.

Mix in a two gallon jar, and see that the solution tests decidedly acid. There will be a small amount of the salt remaining that cannot be dissolved, but will filter out.

### SOLUTION No. 2.

Water.....1 quart.  
Protosulphate of iron.....12 ounces.

Let iron dissolve slowly; shake bottle occasionally; filter, and if 32 drops sulphuric acid be added to the solution, it will stay clear.

Filter these solutions carefully.

If the commercial oxalate of potash is preferred, use

Water (hot).....5 pints.  
Oxalate of potash.....1 pound.

See that the solution is somewhat acid; add a little oxalic acid to make it so; let cool, filter and use in place of Solution No. 1 given above.

### To Develop a 5 x 8 Plate, take

Solution No. 1.....2 ounces.  
Solution No. 2.....1 dram.

(Always pour No. 2 into No. 1.)

Put the exposed plate in the developing tray, and quickly sweep the developer over; keep moving. Keep developer on until image is a little sunken in.

Experience will show how far to carry development. When plate is removed from developer, wash carefully. Fix in a solution of water, one gallon; hyposulphite of soda, sixteen ounces. Wash carefully, and place in a solution of water, one gallon; alum, one pound. Leave for about five minutes, wash for half an hour, and when plate is removed from washing tray, brush off all sediment with a soft brush dipped in water. Let negative dry without heat. Constant motion and careful washing prevent streaks.

After negative is dry, proofs may be taken before it is varnished, but care should be taken to have the paper perfectly dry.

The negative should be varnished with ordinary negative varnish or with plain collodion before any considerable number of prints are made from it, as the film is liable to become stained by the silver in the paper.

### NOTES.

Large plates may be wetted before the application of the developer, if preferred.

If extra intensity is desired, add a few drops of a fifteen-grain solution of bromide of potassium to each ounce of developer before applying to the plate.

To make clean work, dust off the plate before exposure, filter the solutions and avoid air bubbles on the plate.

The iron should be added to the oxalate, and *not vice versa*. If too much iron is added, it will cause a bright yellow sandy precipitate on the plate. Never add iron to developer in developing tray, always pour into a graduate.

A tray should always be used for developing, and enough developer to fully cover the plate.

A very convenient developing tray can be made of planished copper, tin side in—but such a tray cannot be used for hypo., alum or intensification.

If the plate is allowed to drain too much between any of the operations, air bubbles will form on the film, which must be removed with a soft brush upon the application of the next solution, otherwise its action will be unequal.

It is sometimes desirable to immerse plate in a strong solution of common alum, either before or after fixing, as it hardens the film and enables it to dry quicker and cleaner.

Always examine the plate from the *back* on the removal from the hypo.

### To Intensify.

Proper timing and development will render intensification unnecessary, but when it cannot be avoided the following is to be used:

#### STOCK SOLUTION.

Bichloride of mercury.....120 grains.  
Water.....12 ounces.

#### WASH WELL.

Wash thoroughly after fixing and before applying intensifier. Leave in mercury until desired strength is obtained, wash well and put in a solution of ammonia, 120 drops, water, 12 ounces, until blackened.

### To Reduce.

Water.....12 ounces.  
Cyanide of potassium.....1 ounce.  
Bichloride of mercury.....1 ounce.

The plate must be thoroughly washed both before and after its application.

### FAILURES.

A knowledge of failures is sometimes useful as an aid in avoiding them, hence we append some of the most common.

**TRANSPARENT SPOTS.**—Dust on the plate. *Air bubbles on the plate.* Bubbles in developer.

**PINK FILM—PURPLE BY REFLECTED LIGHT.**—Too much ammonia in developer. Development too prolonged. Never occurs with ferrous oxalate developer.

**WEAK AND FOGGY IMAGE.**—Over-exposure. White light in dark room. Reflections in camera.

**WEAK AND CLEAR SHADOWS.**—Under-development.

**STRONG AND CLEAR SHADOWS.**—Under-exposure.

**CRYSTALLIZATION ON FINISHED NEGATIVES.**—Hypo. not washed out.

**FRIILLING.**—Immerse the plate before or after fixing in a saturated solution of common alum.

Most of the failures in the use of gelatine plates are from imperfect light in the dark room, or imperfect cameras or holders, all of which cause fog more readily on a gelatine plate than a wet plate.

### DEVELOPER.

No. 1.—Neutral oxalate of potash.....1 pound.  
Water.....5 pints.

Make decidedly acid with citric acid, and filter.

No. 2.—Iron.....1 pound.  
Water.....2 quarts.

Filter, and add 60 drops sulphuric acid.

#### To develop, take

No. 1.—Oxalate solution.....4 ounces.  
No. 2.—Iron.....4 drams.

#### Always have ready a bottle of

Water.....10 ounces.  
Bromide ammonium.....300 grains.

If more intensity is needed, add 10 drops bromide solution and continue the development.

Image should show through on back of plate. An over-exposed plate needs weaker developer and more bromide solution. An under-exposed plate needs stronger developer and less bromide solution.

Carry the development until image is well sunken in; don't try to hurry.

Note Reduction.	PRICE LIST.	Note Reduction.
3½ x 4½.....doz.	\$0.60	8 x 10.....doz.
4 x 5....."	0.90	10 x 12....."
4½ x 5½....."	1.00	11 x 14....."
4½ x 6½....."	1.20	14 x 17....."
5 x 7....."	1.55	17 x 20....."
5 x 8....."	1.75	18 x 22....."
6½ x 8½....."	2.30	20 x 24....."

Complete formula for use inclosed in each package.

Manufactured for the Professional Photographer, the Scientific Amateur, the Microscopist, the Artist, the Manufacturer, the Pleasure Seeker, and all who wish to preserve an exact and beautiful representation of any object.

THE SCOVILL MANUF'G CO., New York,  
For Sale by all Dealers. GENERAL TRADE AGENTS.



JOHN CARBUTT, Esq.,

*My dear Sir:* I have just returned from a trip 200 miles West, using the J.C.B. and B. plates you last sent me; they give the results I have always looked forward to with an A1 wet plate. I fully appreciate the dry plate in field and studio work, especially the former. I believe in standing by the plate manufacturer who first introduced them. I have not much love for Tom, Dick and Harry who make plates. The latest is an Iowa man who advertises  $\frac{5}{8}$  plates for \$1.20. I presume he has a mammoth business. I have always talked Carbutt plates from the first, and now return to *my* first. With many other makers they look good while developing, but disappear in the hypo., but yours improve by being fixed. Excuse me for being so complimentary, but when I look over my negatives made three years ago on Carbutt plates, and look at those I have made since on other plates, it makes me sick, and my consolation is that knowing I have a supply of "Keystone" plates on the way, I have confidence my future work on them will be satisfactory. I use a '76 Stereo. box, please send me one of your Inst. Exposing Shutters for the same.

Yours respectfully,  
F. J. HAYNES,  
Official Photographer Northern Pacific R. R.

J. CARBUTT:

*Dear Sir*—Last Fall I had occasion to take a set of photographs of the National Regatta held at Belle Island Park, for which I used your J. C. B. I have used other makes of plates that were as quick and sensitive as the J. C. B., but I have not yet found the plate that gives, on the same plate, landscape, breaking water, and colored effects equal to what I obtained in the set above alluded to. As you know, I have used dry plates for my commercial work for the last twenty years, and I ought to be able to form a fair judgment, and I say to you, *unasked*, that for detail—gradation of light and shade—and with all the force necessary to make a good printing negative, I have found no plate equal to your own.

I am, yours respectfully,  
JEX BARDWELL,  
555 Michigan Ave., Detroit, April 12, 1883.  
Landscape Photographer.

BALTIMORE, April 19th, 1883.

FRIEND CARBUTT: Please send — dozen 5 x 8 B plates. I like them more than ever, and I prophecy that they will become the standard view plate, their quality is so uniform.

As ever yours,  
D. BACHRACH, JR.



SEASON OF 1883. FOURTH YEAR.

With increased experience and greatly increased facilities, we can promise that the "KEYSTONE PLATES" will be found to excel all others in *quality, rapidity, uniformity and technical perfection.* All plates are packed face down in our new boxes.



The Slow Landscape, and for Transparencies—  
Red Label.



The Rapid Landscape, for Groups and general Photography, a most useful and reliable plate—White Label.



For Rapid Portrait Work, Instantaneous Views, Interiors, &c.—  
Blue Label.

THE KEYSTONE SPECIAL PLATE.

This plate is, we believe, the most rapid offered the public; about double the speed of the J. C. B., and same treatment in developing; very suitable for Amateur Indoor Photography, Animals and Moving Objects.

UNSOLICITED TESTIMONIALS TO THE SUPERIORITY OF CARBUTT'S KEYSTONE DRY PLATES.

SALT LAKE CITY, UTAH, April 17, 1883.

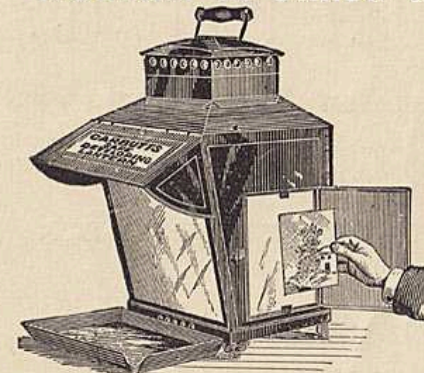
DEAR MR. CARBUTT:

I bought some of your plates in 1881, about November; I now enclose a print, 10 x 12, taken from negative made on one of them a few days ago, as described on back. I think your plates are suited to any climate if they can stand ours and the summer months. I am glad to be able to send you this evidence of the permanency of your plates, as you are one of the life-long hard workers in the photo. cause, and ought to succeed.

Yours respectfully,  
C. R. SAVAGE.

[NOTE ON BACK OF PRINT.—5 seconds exposure, wide angle Darlot,  $\frac{1}{2}$  inch stop. Plate kept in stock 18 months.]

CARBUTT'S  
MULTUM IN PARVO DRY PLATE LANTERN.



Has three separate and distinct forms of light, and can be used for seven or more different operations in photography. It is adapted for the use of either oil or gas; is provided with coal-oil lamp, with improved patent burner and silvered reflector, is about nine inches square by fourteen high, with eight by ten light of deep ruby glass in front, and good for protecting the eyes from the glare of the red light.

Price \$6.00, boxed ready for shipment.

Lantern arranged for developing, and after fixing, examining negatives by opal light.

For Sale by all Dealers.

INVENTED AND MANUFACTURED BY  
**JOHN CARBUTT,**  
Keystone Gelatine Plate Works, Philadelphia.



# The Crystal Dry Plates

EXCEL IN

*Brilliancy, Rapidity, Latitude  
of Exposure, Uniformity of  
Action and Cleanliness.*



MANUFACTURED AND FOR SALE BY

**THE CRYSTAL DRY PLATE CO.,**

Nos. 76 & 78 West New York Street,

INDIANAPOLIS, IND.

BY STOCK DEALERS GENERALLY,

AND BY

**Scovill Manufacturing Co.,**

TRADE AGENTS FOR THE EASTERN STATES.

[See opposite page.]

## TESTIMONIALS.

### THE CRYSTAL DRY PLATE CO.

"I hear nothing but good from them."—H. C. FRENZ, Stock Dealer, Toledo, Ohio.

"They give uniform satisfaction."—W. D. GATCHEL & Co., Louisville, Ky.

"I have used them exclusively in my gallery for the past year."—W. H. POTTER, Claypool Block, Indianapolis, Ind.

"Out of 117 consecutive sittings made on the Crystal Dry Plates, we have obtained 116 negatives satisfactory to our critical customers."—SMITH & DRYER, West Washington Street, Indianapolis, Ind.

"There is a rapidly growing demand for them; our sales have more than doubled within the past three months."—H. LIEBER & Co., Stock Dealers, Indianapolis, Ind.

#### From the Photographic Times.

"The Crystal Plates work admirably in this hot, moist climate. I am obliged to use water at a temperature above seventy degrees, but out of three dozen I have not lost one, and have had no sign of frilling."—A. D. BROWN, Roseau, Dominica, West Indies.

#### PRICE LIST OF NO. 1, INSTANTANEOUS.

PER DOZEN.		
4½ x 3½ inches, \$0 75	8 x 5 inches, \$2 00	17 x 14 inches, \$11 00
5 x 4 " 1 05	8½ x 6½ " 2 70	20 x 17 " 19 00
5½ x 4½ " 1 15	10 x 8 " 4 00	22 x 18 " 22 00
6½ x 4½ " 1 40	12 x 10 " 5 75	24 x 20 " 26 00
7 x 5 " 1 80	14 x 11 " 7 65	

#### PRICE LIST OF NO. 2, EXTRA RAPID.

PER DOZEN.		
4½ x 3½ inches, \$0 60	8 x 5 inches, \$1 75	17 x 14 inches, \$10 00
5 x 4 " 0 90	8½ x 6½ " 2 30	20 x 17 " 17 00
5½ x 4½ " 1 00	10 x 8 " 3 40	22 x 18 " 20 00
6½ x 4½ " 1 20	12 x 10 " 5 00	24 x 20 " 24 00
7 x 5 " 1 55	14 x 11 " 6 50	

We warrant our plates to be perfect and will answer any complaints. In case of trouble please state the nature of failure, the number of emulsion marked on the box containing the plates, what kind of developer was used, and how it was prepared.

**CRYSTAL DRY PLATE CO.,**

76 & 78 West New York Street,

INDIANAPOLIS, IND.



# MONROE'S "UNIVERSAL" DRY PLATES.

The Plate par excellence for Amateurs

- WHY?**
- 1st. Because they are so easy of manipulation; they develop quick and clear, fix quick, and require but little washing as compared with some brands.
  - 2d. Because they admit of great error in the exposure, and still produce elegant results. As beginners in the art are sometimes long months in acquiring the "knack" of proper timing, these plates help out.
  - 3d. Because they will respond to either the oxalate or pyrogallic developments with equally beautiful results.
  - 4th. Because they are carefully cut, and thinnest glass in smallest sizes, and are clean on the backs.

Every package has full instructions and formula for development. It is probable that there are no two brands of dry plates compounded alike, and this being the fact it stands to reason that every maker of plates has experimented and published the formula of development best suited to his particular brand. Therefore do not condemn Mr. A.'s plates that you have failed with, in using Mr. B.'s developer. Use the developer recommended for my plates on my plates, unless you can find a better one—then communicate with me.

## EVERY AMATEUR INVITED TO TRY MONROE'S PLATES.

By filling out the following blank and posting it to the manufacturer, together with a sample print of your own make (unmounted), stating plate used, and whether oxalate or pyro. developer, and how long you have used dry plates, we will send gratis, for trial, half dozen either  $3\frac{1}{4} \times 4\frac{1}{4}$  or  $4 \times 5$ , or four  $5 \times 8$  size. The express charges ought not to exceed 25 cents.

The sample developer is the new alkaline pyrogallic lately formulated expressly for our plates, and gives the finest results ever attained on dry plates, perfect freedom from stain or yellow color, and films the color of oxalate, thereby allowing the negative to be printed from more expeditiously than is usual with any other plates.

MR. GEORGE H. MONROE, ROCHESTER, N. Y.

Please ship by express, gratis, for trial, sample package UNIVERSAL PLATES, together with developer. Express charges to be paid by myself.

Size.....  
Name.....  
Express Office.....  
County..... State.....

# MONROE'S "UNIVERSAL" GELATINE DRY PLATE.

READ.

BOSTON, Dec. 2, 1882.  
GEO. H. MONROE—*Dear Sir:* I have tried the plates sent me by Messrs. French & Co., and find them of exceedingly good quality, certainly surpassing most, if not all, of the English makes I have used. \* \* \*

Yours truly, WM. T. BRIGHAM,  
Pres. Boston Society Amateur Photographers.

JAMESTOWN, N. Y., Oct. 26, 1882.  
FRIEND MONROE—Enclosed please find P. O. order, for which send me one gross  $5 \times 8$ , one half gross  $8 \times 10$ . Am much pleased with the working of your plates—hardly ever make a miss. Am now using two dry to one wet plate; in fact, don't think I shall use any more wet plates, except for copies. Hurry plates along. Truly your friend, J. ROBT MOORE.

WARRENTON, GA., July, 1882.  
GEO. H. MONROE, Rochester, N. Y.—*Dear Sir:* I must write you about how plates behave in my hands. If there is any such thing as reaching perfection, you certainly have reached that goal. I have had some experience with three or four different well known makes of plates. The plates are a good plate, but have one serious draw-back—ice-water has to be used, and it is not always to be had in small towns in the South. I lost two fine negatives yesterday by not having cold enough water. I right after developed two of yours with same water and developer, and produced two fine negatives, and so easy. I have often read of dry plates developing as easy as wet plates. I would much rather develop your plates than wet ones. They develop cleaner, quicker and better, and I am more sure of the negative than with the bath. I have not lost a single negative from your plate, while I have had many failures with others; so it cannot be altogether my inexperience. I shall soon send you another order for plates.

Respectfully yours, W. H. CLARK.  
ROCHESTER, Sept., 1882.

I have used Monroe's dry plates and have found them to be fully as good as any in the market. They are particularly clean and evenly coated.  
R. H. FURMAN.

### PRICES OF PLATES PER DOZEN.

RAPID OR INSTANTANEOUS.

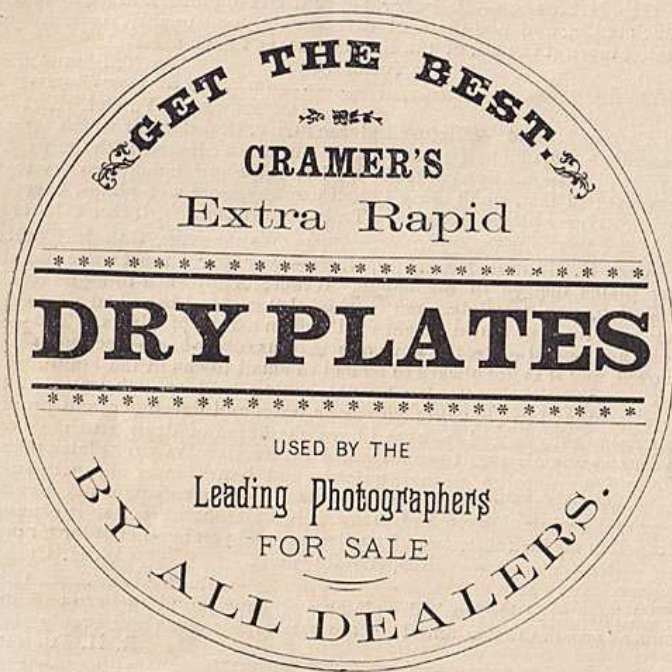
$3\frac{1}{4} \times 4\frac{1}{4}$ .....	\$0 60	$5 \times 8$ .....	\$1 75	$14 \times 17$ .....	\$10 00
$4 \times 5$ .....	0 90	$6\frac{1}{2} \times 8\frac{1}{2}$ .....	2 30	$17 \times 20$ .....	17 00
$4\frac{1}{2} \times 5\frac{1}{2}$ .....	1 00	$8 \times 10$ .....	3 40	$18 \times 22$ .....	20 00
$4\frac{1}{2} \times 6\frac{1}{2}$ .....	1 20	$10 \times 12$ .....	5 00	$20 \times 24$ .....	24 00
$5 \times 7$ .....	1 55	$11 \times 14$ .....	6 50		

$14 \times 17$  and larger sizes in half dozens, and double thick glass.

Manufactured by GEO. H. MONROE, Rochester, N. Y.

Scovill Manufacturing Co., Agents.





## IMPROVED DEVELOPER

FOR

“**CRAMER'S**”

# Extra Rapid Dry Plates.

**SIMPLE!**

**DURABLE!**

**ECONOMICAL!**

Producing the best chemical effects and finest printing quality of negatives.

### STOCK SOLUTION.

Sulphite of Soda (Crystals).....	3 ounces troy weight.
Bromide of Ammonium.....	1 ounce “ “
Bromide of Potassium.....	1 1/2 ounces “ “
Pyrogallic Acid.....	2 ounces “ “
Dissolve thoroughly in pure rain, distilled or ice water.....	32 fluid ounces.
Add Sulphuric Acid c. p.....	20 minims.
Finally strongest Aqua Ammonia.....	3 fluid ounces.

And water to make up bulk to 40 ounces.

Be careful to measure the Sulphuric Acid and the Aqua Ammonia very exact, and keep the latter in a cool place, well stoppered, so that it will retain its full strength.

(Instead of 3 ounces Crystals, 2 ounces granular Sulphite of Soda may be substituted to produce the same effect.)

The solution assumes a bright ruby color, and will keep a long time if kept in a bottle with tight-fitting india rubber stopper.

### Dilute sufficient for one day's use as follows:

For ordinary purposes..... 1 part to 11 water.  
 For very short exposures..... use 1 part with 3 or 6 parts water.  
 For over-exposed plates, or in all cases where great intensity and contrast is desirable..... 1 part to 20 water.

In developing a plate which was over-exposed, the shadows will appear too soon. In this case add as quick as possible more water to retard the development and to produce more intensity.

If the shadows appear too slowly (from under-exposure), add more stock solution, as the stronger developer will produce more detail in the shadows and less intensity in the lights. The additional stock solution should be poured in the corner of the developing dish, as it would cause stains if applied directly to the plate.

Always develop until the shadows have sufficient detail.

Wash well before fixing and prepare the fixing bath as follows: First dissolve half pound powdered Alum in one-third gallon of water; then dissolve one pound Hypo in two-thirds gallon water. After both are dissolved, pour the Alum solution in the Hypo.

The alkaline pyro. and sulphite of soda returned to the pouring bottle, which should be provided with a tight-fitting india rubber stopper, to prevent evaporation. If the mixed developer has been standing a while, shake before using and wait a few seconds until the air bubbles have disappeared. As long as the solution remains transparent it is all right, but when it looks muddy its use should be discontinued.

Respectfully,

**G. CRAMER, DRY PLATE WORKS,**  
**ST. LOUIS, MO.**



## NEW AND SIMPLE PYRO. DEVELOPER

—FOR—

# CARBUTT'S SPECIAL PORTRAIT

*And Instantaneous Gelatine Dry Plates.*

**CAUTION.**—Owing to the extreme sensitiveness of these Plates, we would caution customers to be careful of the quality of the light used. Carbutt's Mulum in Parvo Lantern or Translucent Ruby Paper give a safe light with oil or gas.

THIS DEVELOPER will be found to allow of shorter exposure and gives finer modulation to the negative than is generally obtained with Ferrous Oxalate; but for these Plates we prefer and recommend the following simple formula of Pyro. and Common Washing Soda; however, Ferrous Oxalate may be used by those who prefer it.

### No. 1.—10 PER CENT. PYRO SOLUTION.

Pyrogallic Acid.....	1 oz.
Oxalic Acid.....	120 grs.
Water.....	8 oz.

Dissolve the Acid, then add the Pyro. and Water to make 10 ounces fluid.

### No. 2.—SODA SOLUTION.

Saturated Solution Washing Soda.....	4 oz.
Sulphite of Soda.....	80 grs.
Water.....	16 oz.

A Saturated Solution of Soda is made by pouring 4 parts hot water on to 5 parts Carbonate Soda (Common Washing Soda) and allowing to cool.

### No. 3.—CITRATE OF SODA.

Take 2 oz. Saturated Soda Solution, add of Citric Acid in powder until a slip of blue litmus remains faintly red, then add water to measure 10 oz.

To develop say a 5 x 8 plate, measure half dram No. 1, pour into 2½ oz. Soda Solution and flow over Plate in developing pan. If properly exposed, continue till image is well out, then wash off Developer and immerse for two or three minutes in the

### No. 4.—HARDENING AND BLEACHING BATH.

Pulverized Alum.....	2 oz.
Oxalic Acid.....	¼ oz.
Water.....	20 oz.

wash a for minute or two, then fix in Solution of Hyposulphite of Soda, 1 to 5 of water, then wash most thoroughly. The negative may again be placed in the Alum Solution in case the yellow color had not all been discharged by the first application.

**Over-Exposure.**—If on applying the Developer the image comes too quick, at once remove Plate and wash off. To the Developer add half a dram Citrate Soda Solution, one dram more Pyro. Solution, and one ounce Water, the development will now be slower and vigor secured as in a properly timed negative. For under-exposure add one or two drams saturated Soda Solution.

For Instantaneous Exposures, add one dram No. 1 to 2 ounces of No. 2 Soda Solution. This Developer, while the cheapest, has given the most satisfactory results in Portraiture and Landscape, and I strongly recommend a trial of it by those using the Keystone Plates.

## HOW TO MAKE TRANSPARENCIES ON

# CARBUTT'S KEYSTONE PLATES.

When to be made by contact, use artificial light, either gas or coal oil lamp, but the most efficient is the light from

### CARBUTT'S MULUM IN PARVO LANTERN.

Use a deep printing frame with a piece of plate or flat glass to lay Negative on place over the Negative a Keystone A Plate, then expose from 10 or 20 seconds or what may be considered sufficient according to the intensity of Negative being used, the time of exposure and strength of developer are the two principal factors in determining the TONE and DENSITY of the resultant transparency, a short exposure with strong developer yields vigorous transparencies with rich velvet black tone, long exposure and dilute developer gives warm brown tones, fine gradation with transparency of detail in the Shadows, suitable for Optical Lantern Slides.

For transparencies for the window, a mask with a suitable central opening should be placed between the Negative and Gelatine Dry Plate. A suitable paper is a thin enameled surface paper of a Turkey red color, this will be found to protect the margin of the plate and give a sharp clean outline to the picture.

## SPECIAL DEVELOPER FOR TRANSPARENCIES.

### I. OXALATE SOLUTION.

Oxalate of Potash.....8 ounces. | Water.....32 ounces.

When dissolved, add of a strong solution of Citric Acid sufficient to faintly change blue litmus paper, then add 200 grains more of Citric Acid, when dissolved, filter.

### II. IRON SOLUTION.

Pure Protosulphate of Iron.....4 ounces. | Water.....16 ounces.

Dissolve and add of Sulphuric Acid, 16 drops.

### DEVELOPER FOR BLACK TONES.

Oxalate Solution.....4 parts. | Iron.....1 part

### DEVELOPER FOR BROWN TONES.

To the above add two or three parts water, bearing in mind what has been said about regulating the exposure to suit the developer. The development should be carried on until the detail in the strongest light of the image is well defined, then wash, and fix in clean and fresh Hypo. Solution, made by dissolving 4 ounces of Hypo. Soda in 20 ounces of water, place in Alum Solution a few minutes, then give a thorough washing, and before putting to dry, with a swab of absorbent cotton go over the surface while holding the transparency under the tap, rinse and place to dry spontaneously, and it is then ready to bind in the metal frames sold by dealers for that purpose.

N.B.—By leaving out the 200 grains Citric Acid in the above Oxalate Solution, it is then suitable for the ordinary Negative Developer.

## Formulas for Development of Crystal Dry Plates.

### DEVELOPMENT.

These plates may be developed by any of the well-known formulas in current reputable use for the purpose; but the iron developer has our preference as being much more cleanly than the alkaline method of development.

As some may, however, prefer the alkaline developer, we append formulas for both methods.

### FERROUS OXALATE DEVELOPMENT.

#### No. 1.—Potassic Oxalate Solution.

Potassic Oxalate (neutral).....8 ounces | Water.....32 ounces.

Dissolve the oxalate in the water heated to boiling, and filter. The solution should be tested with blue litmus paper; if it is not slightly acid, add sufficient oxalic acid to render it so.

#### No. 2.—Iron Solution.

Sulphate of Iron (pure).....2 ounces. | Sulphuric Acid.....15 drops.  
Water.....8 ounces.

After the solution has settled clear, decant and use only the clear supernatant portion.

#### No. 3.—Bromide Solution.

Bromide Potass.....30 grains. | Water.....2 ounces.

To make the developer, take

No. 1 Solution.....3 ounces. | No. 3 Solution.....5 drops.  
No. 2 Solution.....4 drams.

Over-exposure may be corrected by decreasing the amount of No. 2 Solution to 1½ drams and doubling the amount of the No. 3 Solution; while under-exposure may be corrected by doubling the amount of No. 2 Solution and leaving No. 3 out of the developer.

As the developer becomes exhausted the proportion of No. 2 Solution may be increased, but the entire amount added should never exceed one-fourth of the mixture, i.e., 3 parts of No. 1 to 1 part of No. 2.



### ALKALINE DEVELOPMENT

#### No. 1.—Pyrogallic Acid Solution (Stock).

Pyrogallic Acid.....	4 drams.	Alcohol (95 per cent.).....	8 ounces.
Bromide Ammonium.....	1 dram.		

The Alcoholic Solution has the disadvantage of working "greasy" on the plate, and may be replaced by the following: No. 1 Pyrogallic Acid Solution—which may be worked with the following No. 2 Solution, in lieu of the above Alcoholic Solution.

Pyrogallic Acid.....	4 drams.	Water.....	8 ounces.
Citric Acid.....	$\frac{1}{4}$ dram.		

Either solution should be labeled No. 1 or Pyro. Solution, and should be kept in a glass stoppered vial. Either solution will keep indefinitely.

#### No. 2.—Ammonia Solution (Stock)

Bromide Ammonium.....	2 drams.	Water.....	7 ounces.
Aqua Ammonia (strongest).....	6 drams.		

This solution should be labeled No. 2 or Ammonia Solution, and should be kept in a well stoppered bottle.

To make the developer, take three ounces of water and add one dram of each of the above solutions (Nos. 1 and 2), or the amount may be increased at pleasure by carrying out the above proportions. Or if desirable to prepare the developer for a day's work, add one ounce of No. 1 to twelve ounces water in one bottle; while in another bottle you will add one ounce of No. 2 to twelve ounces of water. The developer is now prepared as you may desire to use it, by mixing equal portions from each of the second bottles.

Equal parts of solutions No. 1 and No. 2 will generally produce the best effect if the time of exposure has been correct.

If the plate was over-exposed, the details in the shadows will appear with the high lights simultaneously without sufficient contrast. In this case add quickly more of solution No. 1. The additional quantity of Pyrogallic Acid and Bromide of Ammonium will give strength and brilliancy to the negative, which would otherwise be flat and useless. In all cases where more intensity and contrast is desired, prepare the developer with an excess of solution No. 1, say from  $1\frac{1}{4}$  to 2 parts No. 1 and 1 part No. 2.

If the plate was under-exposed, the shadows will not appear in time, and more of solution No. 2 should be added to produce more detail and less contrast.

By mixing the two solutions, No. 1 and No. 2, in different proportions, the intensity of the negative can be regulated at will. Observe the following rules: If the negative appears too thin with clear shadows, it should have been developed longer. If the negative appears too thin with full detail in shadows, it is a sign of over-exposure. If the negative is intense in the lights, but deficient in the shadows, with too much contrast, it is a sign of too short an exposure.

For white draperies and for solar negatives, where much detail and less intensity is desired, dilute 4 parts developing solution with 1 part of water. Transparent spots are caused by dust on the plate or air bubbles in developer.

#### TO DEVELOP A PLATE.

Immerse the plate in cold water for one-half minute, then transfer to a developing dish and pour either of the above described developers quickly over the plate.

The image, in a properly exposed plate, will appear in from fifteen to twenty seconds; if it flash up quickly it has been over-exposed, or if it hangs back it is an evidence of under-exposure. In either event it should be quickly removed from the tray and washed, and the developer should be modified as above directed.


Continue the development until the deepest shadows begin to sink into the plate, and until the high lights show dark on the opposite side of the plate. A properly exposed plate can hardly be over-developed.

Wash the plate well and fix in the following solution:

Thiosulphate Soda (Hypo.).....	3 ounces.	Water.....	1 pint.
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After the plate is fixed, wash and immerse, for a moment, in a saturated solution of alum, after which the plate should be thoroughly washed and allowed to dry spontaneously.

It should be remembered that many negatives are spoiled by under-development, the shadows should be well brought out, and the lights sufficiently intense, as the fixing bath always reduces the strength of the negative slightly.

 We warrant our plates to be perfect, and will answer any complaints. In case of trouble please state the nature of failure, the number of emulsion marked on the box containing the plates, what kind of developer was used, and how it was prepared.