

HOW TO MAKE
PHOTOGRAPHS

—AND—
DESCRIPTIVE PRICE LIST.



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HOW TO MAKE PHOTOGRAPHS

INTRODUCTORY REMARKS.

Amateur Photography has for years been held in high estimation throughout Great Britain as a means of recreation by persons of rank, title, men eminent in the legal profession, in literature and in science. Although but recently introduced in this country in a popular form, so that outfits are sold at prices ranging down to \$10, it is destined to maintain a high place among art studies and diversions. Recent improvements in photography have made possible the production of the highest class pictures through the medium of an equipment which any one should be able to manipulate, and yet so light in weight as not to be burdensome. The apparatus is graceful in appearance and many of the fair sex have become expert in its use. Recreation that carries with it stimulating exercise is what is needed in this country, and Herbert Spencer's mild rebuke should not be passed unheeded by thoughtful men. Amateur Photography may venture a claim for consideration, as the practice of it is educating, refining, and health giving. It is a sure cure for mental weariness, and no one who has an artistic appreciation of the beautiful can fail to be interested in the art.

The development of Amateur Photography has been marked and rapid during the three years that have followed the bold move of the Scovill Manufacturing Company of New York, which brought it into immediate popularity, and the useful purposes have been shown that it can be made to serve. Wide-awake correspondents and authors now enclose with their manuscript and send to the publisher photographic prints or negatives



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from which engravings or lithographs are made for the illustration of their articles or stories. The artist, with a camera looking like a hand satchel, photographs, without exciting the suspicion of the unconscious subject, the beautiful, quaint, or repulsive features which, in due time, will be copied on canvas. Similarly equipped, the detective is more than ever to be feared by the criminal. Architects, manufacturers, real estate or insurance agents, and men engaged in other branches of business, for a variety of purposes compel the camera to serve them well.

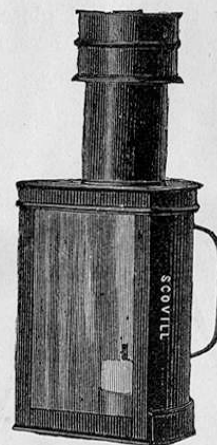
The gems of scenery to be found in our own or foreign lands make an adornment for the home prized for the reminiscences which are associated with each one. These pictures can be handsomely framed or gathered in portfolios and albums. From the same negatives, transparencies may be made or magic lantern slides. As the latter are prepared with so little trouble, a form of parlor entertainment has been introduced which consists of the employment of a magic lantern or stereopticon, and the exhibition to a circle of friends of the pictures taken, developed and finished by the amateur himself. The requirements for securing stereoscopic pictures or photographs of microscopic objects are simple and quite inexpensive. For instantaneous photography one needs but to substitute a quick working lens with a drop or shutter for the one in ordinary use, and to provide himself with extra sensitive plates, and the impressions of rapidly moving objects are fixed on the sensitive film of the plates as though the fleeting panorama had been instantly held in check. There are easy methods for copying manuscript, engravings, and for enlarging small pictures. This sketch of the scope of Amateur Photography is but in outline. The lessons that follow are more detailed and complete.



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



W. I. A. IMPROVED 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.

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



Amateur with Kit Packed.

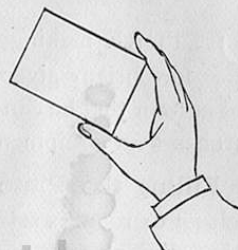
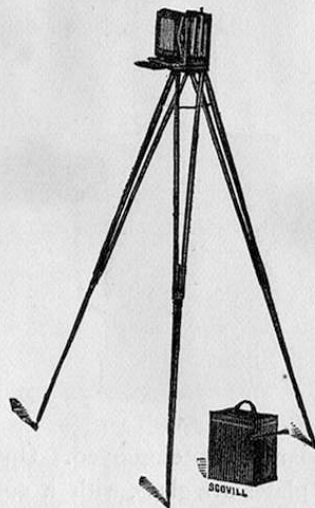


Plate in hand.



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.

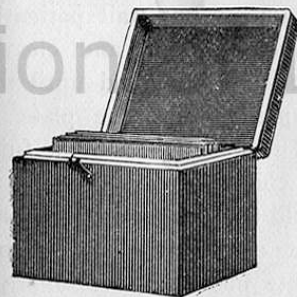
Make an entry on the Registering Slide of a similar import to this:

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.

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 hundred of miles without deterioration.



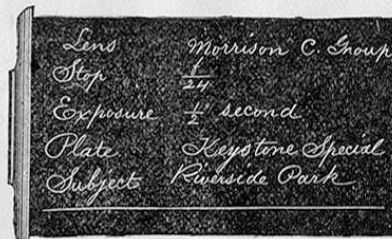
Negative Box.

The Chemical Outfit for making negatives comprises the following articles: Two glossy rubber trays, a 4 ounce glass graduate, a minim graduate, a ruby lantern, a bottle of S.P.C. negative varnish, 1 dozen dry plates, an ounce of bromide of ammonium, a pound of hyposulphite of soda, 1 pound of alum, and a package of S.P.C. carbonate soda developer.

These chemicals are not dangerous nor do they emit offensive odors. Silver stains and the disagreeable smell of collodion belong to the old "wet" process.

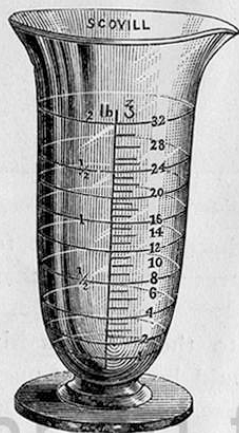
The exposed plates must be removed from the holder in a dark room illuminated by a feeble red or orange light. Take them out of the holder, carefully handling them by the edges and place one of them, film side up, in a tray of pure water*. While it soaks there prepare the developer in the following manner; Dissolve the contents of the paper package marked No. 2, of the

*The Russell Negative Clasp and Drying Support for holding dry plates during development and drying is certainly to be recommended for convenience, and because it keeps the fingers out of the developing solutions. It also enables one to hold the plate up and note the progress of development without touching the sensitive surface of the plate. (See illustration on page 7).



Registering Slide.

carbonate soda developer in 64 ounces of water, and label this "Solution No. 2;" and with the minum glass add to 2 ounces of this solution 2 drams of the No. 1 solution. Now pour off the water from the tray, and flow over the plate the combined developing solution. If air-bubbles form on the plate they must be removed by a touch of the finger or by a soft camel's hair brush. If the plate be correctly exposed traces of the image will appear on the sensitive film in a short time, but in case they do not, pour the developing solution back into the graduate and add a little more of No. 2 solution (from a quarter to half an ounce) and reflow the plate with the strengthened developer. In a short time the details of the image will appear, but wait patiently until all the details are out and clearly seen in the deep shadows, and until the milky-white appearance of the plate is

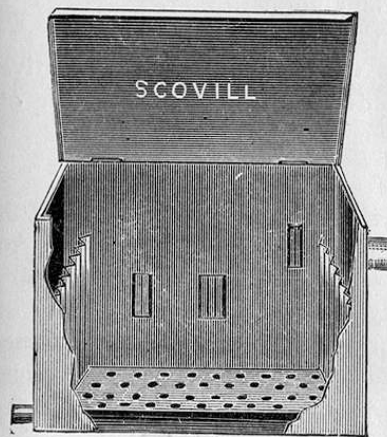


Graduated Glass.

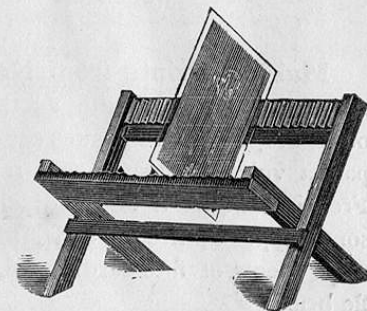
changed to a dark gray color. The negative is then fully developed and must be washed in two changes of water, when it is ready for the "fixing" bath. Should the image on the plate flash out suddenly on flowing it with the developing solution, and continue to grow very rapidly, the plate has been over-exposed and must be quickly removed from the developing tray and placed in pure water while a restraining solution of bromide is made as follows: Dissolve 1 ounce of bromide of ammonium in 8 ounces of water, and label "Bromide solution." Now add a few drops of the bromide solution to the developing tray and replace in it the partly developed plate. The development will now proceed more slowly, but if too much bromide has been added, so that the development is entirely stopped, it can be started again by adding carefully a little more of the No. 2 solution.

In the unused tray mix a solution 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. After washing the negative place it in the hypo. bath and allow it to remain there until every vestige of the milky-white appearance has vanished. The negative can now be safely examined by white light. It must be thoroughly washed, as the hyposulphite of soda, if allowed to

remain in the film, will crystalize and destroy the negative. A negative washing box will be found to be of great assistance. Meanwhile rinse out the first tray and partially fill it with a solu-

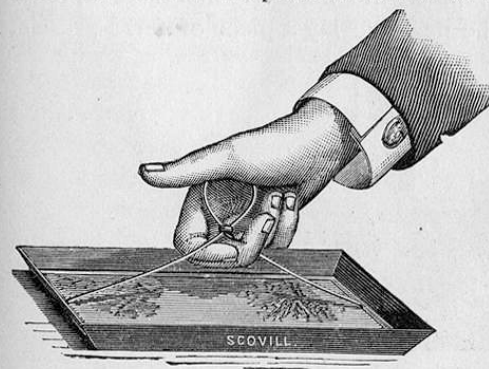


Negative Washing Box.

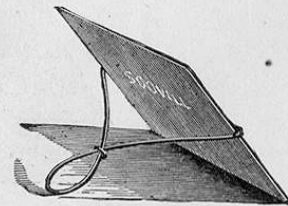


Negative Rack.

tion of 20 ounces of water and all the alum the water will hold in solution. Allow the plate to remain in the alum bath about five



The Russell Negative Clasp.



minutes and then thoroughly wash it again and set it on edge to dry in a negative rack or the drying support.

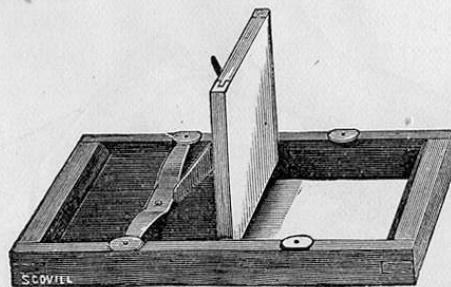
All the preceding instructions can be briefly summarized as follows:

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

4. Drain off the water and pour over the plate the mixed developing solution.
5. Wash the plate and place it in the hypo. solution.
6. Wash the plate and give it an alum bath.
7. Wash the plate and set it in the rack to dry.
8. When perfectly dry, coat the film over with negative varnish, and allow that coating to dry. 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 $3\frac{1}{2}$ 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.



PAPER NEGATIVES.

It is needless to dwell upon the many advantages paper negatives possess over glass, for they will be apparent to any one accustomed to the old process. In consequence of the extreme lightness of the paper, the pleasure of taking pictures is increased ten fold, and the inducements offered to the amateur to take larger photographs enhanced.

The danger of breakage is avoided, thereby making rough transportation perfectly safe.

The compact way in which the negatives can be packed should not be overlooked; they can be kept in books, thereby affording as easy a means of reference as if it were in a photographic album—a point of much value in any large concern. They can be used in photographic ink printing processes without the need of transfer, so common with glass plates.

The advantage of the lightness of the paper over the weight of glass is especially noticeable in the larger sizes, as, for instance, an entire outfit taking twenty-four 8x10 pictures, which includes a camera, lens, tripod, carrying case and roll holder, weighs less than twenty pounds; whereas twenty-four 8x10 glass plates weigh of themselves over sixteen pounds, while the wood plate holders weigh fully as much again; hence, as the roll holder loaded for this size weighs only about three and a half pounds, there is a saving in weight on the outfit of about twenty-eight and a half pounds. A spool of paper for taking twenty-four 8x10 negatives weighs only twelve ounces; hence each additional twenty-four picture paper roll adds to outfit less than one pound, against over sixteen pounds of glass.

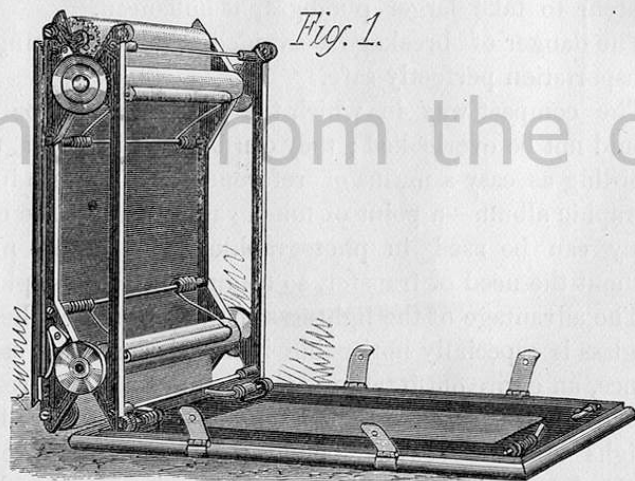
In other words, the amateur can carry an 8x10 outfit with less effort than was formerly expended on a 5x8 glass equipped apparatus, and for each additional twenty-four negatives required the difference is greatly increased.

The retouching of paper negatives is more easily done than on glass, for the back of the negative is worked upon by a pencil; any mistake can be readily erased. With crayon stubs very pretty cloud effects can be worked into the sky of landscape negatives.

The full size of the paper negative is available for printing, and therefore a somewhat smaller film than the glass negative yields the same equivalent in size of the finished photograph.

It is obvious that the most compact and convenient way of using this paper is by means of the roll holder and the spools, for on account of their lightness they can be readily sent in the mails, at a small cost, to various parts of the country.

The Apparatus.—For the purpose of making a large quantity of the sensitive paper available, in a small space,

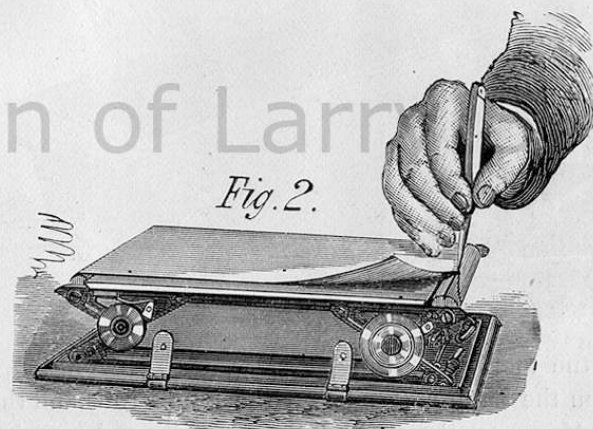


when used in the camera, a holder, termed a "roll holder," has been devised. Fig. 1 illustrates the inside mechanism of the holder when it is thrown up or back, and when ready for use the whole is enclosed in a handsomely finished mahogany outside case, provided on its front side with a suitable slide, as plainly seen in Fig. 6.

Referring to Fig. 1, it will be noticed that the essential working parts of the holder consist of a supply spool holding the sensitive paper, a winding-up reel, a wood exposing platform of peculiar construction, two guide rolls, and two spring re-
ressure tension rolls, which bear upon the supply spool and

winding reel; all being confined and held between two light metal side frames braced and connected together at their ends by suitable tie rods. The back of the mahogany case is detachable, and is held in place by flat spring metal clamps, fitting over corresponding pins on the side of the case. (See Figs. 1 and 6.) The edge of the case fits in an angular groove cut in the inside surface of the back near its edge, for the purpose of making a light-tight joint, when the case is pressed home.

The light metal frame supporting the working parts is held to the removable back by four spring bolts, one pair at each end, which may be plainly seen on the right end in Fig. 2. By compressing the two bolts simultaneously inward with the thumb and index finger, one end of the frame is released and easily

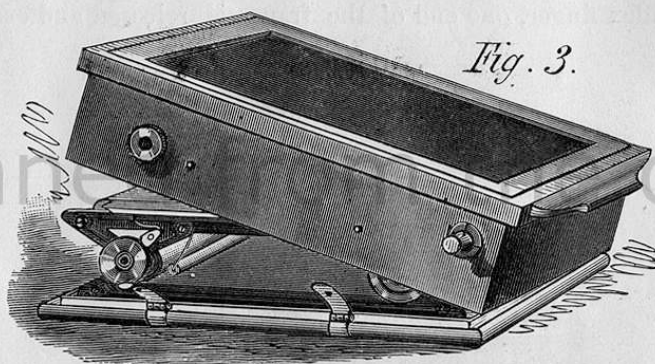


elevated or thrown back, the opposite set of bolts forming a pivot or hinge. In this position the back forms a base to support the frame when placed upright. When the frame is dropped down, the spring bolts are again drawn inward, and in shooting back lock the frame to the back. Thus either end of the frame may be readily elevated, or it may be entirely removed from the back, permitting the operator to obtain easy access to the rollers in the dark room, when attaching and detaching the sensitive paper.

Figs. 2 and 3 show the metal frame down on the back in its normal position. At the extreme end of the metal frame, adjacent to the exposing platform, and having their peripheries

parallel with the surface of the platform, are two guide rolls, of such a diameter that their circumference measures one-quarter of the length of the exposing platform or of the length of the picture, whatever size the holder is intended to make; one guide roll, termed also a measuring roll, will be seen at the extreme upper end in Figs. 1 and 4; and at the right hand end also in Fig. 2.

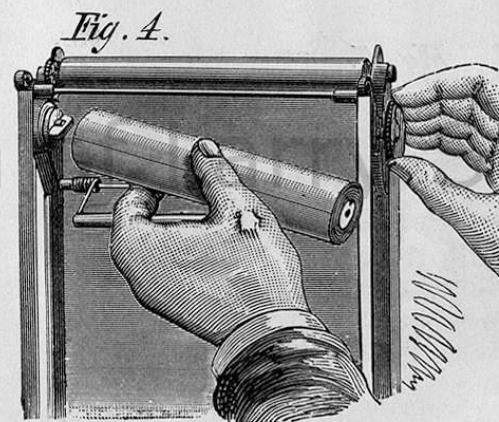
Parallel with its length, will be noticed a tin-lined groove, which is used as a guide for the penknife or thumb nail in accurately cutting off the exposed portions of the paper. Projecting at each end, slightly above the surface of this guide roll, in line with the groove, are two metal points, which



puncture the margin of the paper at each revolution, as it passes from the supply spool over the guide rolls and the exposing platform to the reel at the opposite end; a pin projecting out from one end of the guide roll pushes down a small flat spring secured to the under side of the exposing platform, which, flying up against the under side of the latter, as it is suddenly released, produces a loud click or alarm. In addition to the sound device, a spur wheel is arranged on the shaft of the guide roll at one end, which can be seen in Figs. 1 and 2, so geared that four revolutions of the guideroll will cause a second spur wheel to make one revolution of an indicator seen upon the outside of the case, at its right hand end, Fig. 3, and upper end Fig. 6. The indicator knob has a slot or recess at its inner head, running diametrically across its center, which slips over the square end of the shaft of

the larger spur wheel, and is held down by a spiral spring. It can be raised and turned independent of the spur wheel.

The necessity of providing some accurate yet simple means of measuring the paper as it passes from the supply spool to the reel was apparent to the inventors, and the simple devices just described, which have been adopted, deserve a word of praise. If the measuring device had been attached to either the supply spool or reel, to be guided by their respective revolutions, it would have been inaccurate; for as the paper is taken off the supply spool it revolves more rapidly, while with the reel the diameter is rapidly increased in proportion as the



paper is wound upon it, and the amount thus taken up must constantly vary. Hence it is the constant diameter of the guide rolls, and the revolving of the same by the passing paper, which furnish an accurate means of measurement.

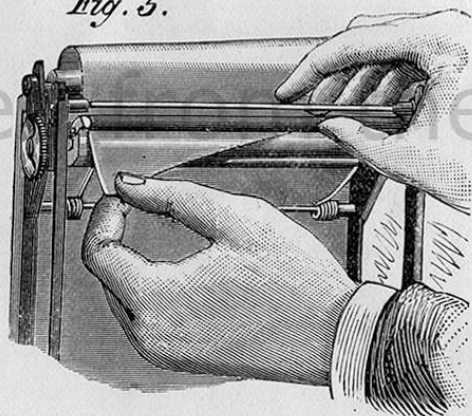
¶ [Passing now from the guide rolls, we come to the supply spool and reel, and the mechanism for rotating and holding them. Both are supported by centres arranged in the metal frame, just under and behind the extreme edge of the exposing platform, their respective positions being seen in Figs. 1, 4, and 5.

In Fig. 1, the supply spool will be noticed at the upper end. Fig. 4 shows a more detailed view of its particular construction, and the manner of its insertion into the roll holder. One

end of the spool has a rectangular recess or saw cut, which corresponds to the rectangular-shaped chuck projection on the metal center. The other end has a hole in which the adjustable screw center, seen upon the right of Fig. 4, is inserted. The chuck center has a large milled head on its outer end, outside of the frame, as shown on the upper left hand end in Fig. 1, and a gravity pawl presses upon the periphery of the head, creating a small friction to its movement, acting also as a tension on the paper.

The sensitive paper is sent out already rolled upon the spools in packages, as shown in Fig. 11, and it is only necessary to insert the prepared spool in the holder to obtain a fresh

Fig. 5.



supply; usually enough paper is wound upon a spool for twenty-four exposures; in small sizes forty-eight exposures are furnished.

Fig. 5 illustrates the mode of securing the free end of the paper to the reel. One portion of the circumference of the reel is flattened in the direction of its length, over which lies a metal clamp pivoted upon the ends of the reel. The clamp is easily raised or lowered by a lateral movement, from the flattened surface of the reel. In Fig. 5 the clamp has been raised by the right hand, while the free end of the paper is drawn through with the left, and afterward straightened with both, when the clamp is pressed down, thus securely fastening the

paper to the reel; rotating the latter at once winds up the paper. The reel is held between a chuck center and a screw center similar to those holding the supply spool, with the exception that the chuck center has a recess instead of a projection, which peculiar construction prevents any mistake of the spool and reel being attached in the wrong place in the dark room. A small spring pawl rests on the periphery of the milled head of the reel chuck, giving quite sufficient friction thereto to prevent the reel from unwinding. In the center of the milled head of the reel chuck center is a threaded hole for receiving the screw threaded operating key. The key when screwed into the milled head operates very similarly to the permanent keys attached to small clocks. Rotating it to the right revolves the reel; rotating it to the left unscrews it from the reel. Around the threaded hole is an annular groove, in which the inner edge of the loose tubular key guide drops when the case covers the frame. The threaded hole and annular groove may be seen in the lower milled head, Fig. 1, and the loose tubular guide at the left-hand end of the case in Fig. 3, and lower end, Fig. 6; the latter also shows the key inserted. The object of this construction is to make a light-tight joint around the key aperture. Fig. 12 shows a cross section of the case at the slide side; two brass flat springs running lengthwise along the inner edge of the slide aperture bear upon the margin of the paper as it travels over the exposing platform, preventing it from buckling or curling up.

How to Use it.—Having now described the various parts of the apparatus, will first explain the operation of inserting and attaching a fresh spool of sensitive paper. By throwing back the spring clamps and drawing out the indicator knob and loose key tube, the outside case with its slide is easily raised from the back, exposing to view the frame and rolls, as shown in Fig. 2. Fig. 3 shows the case partly raised.

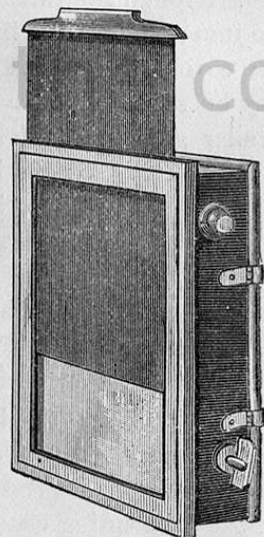
Firmly holding the exposing platform with the left hand, and with the thumb and middle finger of the right compressing inward the two spring bolts on the right-hand end of the back, the frame is elevated, as shown in Fig. 1.

Now, lifting the spring pressure roll or brake, and holding it between the index and second finger of the left hand, while

the supply spool is also held between the index finger and thumb, as shown in Fig. 4, the depression or saw cut in the end of the spool is pushed upon the rectangular projection on the center chuck. With the right hand the threaded thumb screw is passed into the hole at the opposite end of the spool, holding the latter firmly in place. The inclosing band, which binds the paper on the spool, is next torn off, the pressure roll released, so that it presses firmly against the spool, and the free end of the paper drawn under and over the guide measuring roll across the exposing platform, over the second guide roll, down to the reel, as shown in Fig. 5—the frame in the mean time having been reversed on the back, that is, the reel end elevated instead of the spool end.

The paper is fastened to the reel by the flat pivoted clamp, as previously explained; and after seeing that it occupies a perfectly central position across the guide rolls, the slack is taken up by means of the tension screw milled head on one end of the reel. The spring pawl is then turned down or replaced, also the gravity pawl on the spool holder milled head, and the frame secured in position on the back by the four spring bolts. The whole is then covered by and fastened to the outside case. The paper should now lie perfectly smooth and flat on the face of the exposing platform.

The slide on the front of the case is next withdrawn (see it partly withdrawn in Fig. 6), and with a lead pencil a line is drawn across the paper at each end of the slide opening, for the purpose of determining where the first exposure commences. On replacing the slide, the holder is removed from the dark room and attached to the camera, to which it has been previ-

Fig. 6.

ously fitted, and so arranged that the plane of the exposing platform shall occupy exactly that of the ground glass.

I will now suppose that the object has been properly focused, the ground glass removed, and the holder attached to the back of the camera, the same as an ordinary plate holder, by means of suitable pins and catches. The slide is withdrawn, and the exposure made by uncapping and capping the lens in

Fig. 7.

the usual manner, and the slide replaced. The operating key is screwed home and the indicator knob raised and turned around by the thumb and index finger until its mark stands at zero, when a spring forces it into place, on to the square head of the shaft of the indicator spur wheel.

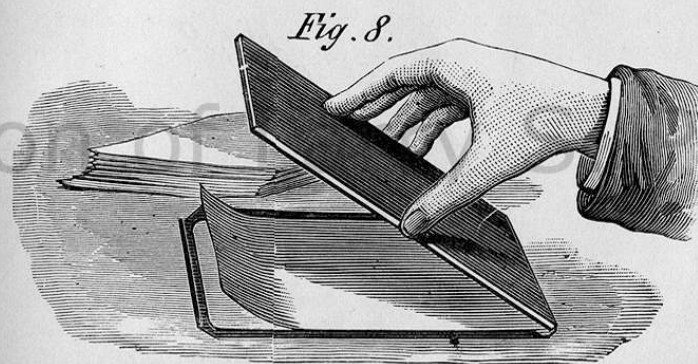
It is now desired to bring a fresh surface upon the exposing table for a new exposure; with the right hand the operator rotates the key similar to the winding of a clock (see Fig. 7), which rotates the reel and carries the paper over the face of the exposing platform; soon a click is heard, and the indicator knob has made one-quarter of a revolution; then a second, third, and fourth click, when it will be found that the indicator has made one complete revolution, informing the operator both by sound and sight that a fresh sensitive surface has been brought into place. With each click the metal points on the surface of the measuring guide roll puncture upward the paper at each margin, making four raised dots on each edge for each exposure.

Twelve exposures out of the twenty-four having been made, it is desired that they be separated and removed from the supply spool for the purpose of development; taking the holder to the dark room and removing the outer case, we sever the exposed portion of paper on the reel and on the exposing platform by simply drawing the point of a knife across the length of the measuring guide roll in its metal-lined groove (see Fig. 2). By counting four dots from the end, we come to the end of one exposure. The paper is next drawn by the hand to the right until the fourth pair of dots are brought over the groove, when the sheet is readily separated as before. Instead of cutting off the exposed sheets in this manner, they may be severed by shears. The reel containing the exposed paper may be bodily removed from the frame in the same manner as the supply spool, and another inserted, and the unexposed paper attached to it, as in Fig. 5, when new exposures may be wound upon it as before.

The spring pressure rollers bearing upon the back of the paper when on the spool or reel prevents the uncoiling of the paper on the same, and thus obviates the danger of abrasion by the loosening and tightening of the paper on itself.

In holders of small size, three clicks and punctures are made instead of four for one exposure; in large sizes as many as five or six. All the parts of the holder are made interchangeable, on the plan of the sewing machine and all American Optical Co. apparatus, thereby making the repair of any damages a very simple matter.

Film Carriers for Use with Scovill Dry Plate Holders.—In cases where it is inconvenient to use a "roll holder," a special carrier has been devised (see Fig. 8) for supporting single sheets of the paper in the ordinary double holder used for glass plates. The carrier consists simply of a thin wood support or plate built up of narrow strips of wood to prevent warping, constructed like the exposing platform in the "roll holder," and has a thin metal mat or frame, which is bent up around the edges, and clasps the plate when it is pressed into it. In Fig. 8 the wood carrier is held in the hand, while the metal mat lies flat; above it may be seen the sheet of paper, one end being partly curled up.



In order to secure the paper to the carrier, the frame is laid down upon a clean sheet of paper and the sheet of negative paper laid, face down, into it; the wood plate is then pressed down on top of it, and the ends of the frame, springing over the rounded edges of the wood carrier, hold the paper firmly and smooth against the carrier. As the thickness of the carrier and mat combined does not exceed that of the average glass plate, it can be put into the ordinary plate holder for exposure in the camera.

Simplicity of the Development.—After the paper has been exposed in the camera, the sheets are cut off and developed by a red light in a dark room, similar to dry plates; but they possess a marked advantage over the plates, from the fact that several sheets can be developed at one time, one above

the other, in one developing bath, somewhat in the same way as silver prints are toned. The sheets are first wetted by immersion in a tray of water, and then placed face down one after the other in the developing solution, and moved about in the same until development is finished. They are then washed in water, and fixed in a combined solution of hyposulphite soda and alum, again washed and dried.

Fig. 9 shows the tray upon the table in which is the developer; the bottle and graduates may also be seen. The developed negative is held up by its upper corners, with the fingers for examination of its density before the red light, which is supposed to be on a shelf in front of the operator.



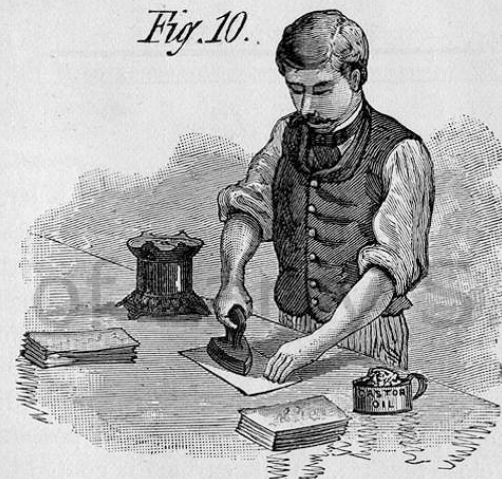
The S. P. C. pyro and soda developer, already mixed, is furnished, thereby insuring the novice perfect success at the outset.

Although silver prints can readily be struck off in the ordinary way in the printing frame from the paper negative, after it is dry, which will show no grain in the shadows, still it is advised, when a large number of prints are to be made, that the negative be made transparent by means of either Castor oil or paraffine. Castor oil has been adopted, and the method of applying it is illustrated in Fig. 10.

To the right of the operator may be seen either a gas or kerosene stove, on which a common flat iron is heated until it is hot enough to almost scorch the paper. The negative is laid

face down upon a pad composed of six thicknesses of folded manilla paper. With a thick bunch of flannel or cotton wool the back is swabbed over with castor oil. If the size should be 5x8 a teaspoonful would be sufficient. Then the hot flat iron is pushed over the back as if one were in the act of ironing, as shown in Fig. 10, the path of the iron being followed rapidly with a swab of cotton, which, being saturated with oil, fills rapidly the pores of the paper as soon as they are freed from the air in

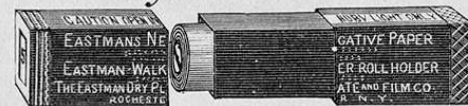
Fig. 10.



them by the heat. In this way the paper is very rapidly made transparent, and the negative as useful as if it were on glass.

If paraffine is used, the negative should be laid down on a hot iron, and a piece of paraffine wax rubbed over its back; the surplus not absorbed by the paper may then be taken up with blotting paper.

Fig. 11.



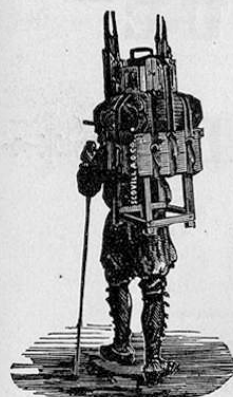
Preparation of the Sensitive Film.—The process consists in giving the paper a preliminary coating of gelatine sufficiently thick to give a plane surface to the paper, filling up all the depressions, and then in calendering the paper thus coated, so that it presents an absolutely

polished surface to the sensitive emulsion, which is, as with the ordinary plates, based on gelatine. The paper is thus prepared in the roll thirty inches in width, and is then, still in the roll, coated with gelatine bromide emulsion in a double application, the second beginning with the end at which the first finished, securing a general equality of the film which no film on glass attains as a rule, and at the same time obviating in the one application any defects which the other may have had.



Fig. 12.

I am informed that the machinery employed is large enough to prepare and coat a strip of paper thirty inches wide by 3,800 feet long, and to produce a superior negative paper, possessing the characteristics so desirable in any sensitive film, such as extreme uniformity of coating, great sensitiveness, freedom from halation, and other accidental defects often found in glass plates, at a cost much below that of ordinary dry plates, and of equal excellence. The paper possesses a wonderfully fine close texture, and its surface is coated with an extremely sensitive gelatine argentic emulsion.



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 the Scovill Manufacturing Company of New York anticipated and first met by the introduction of apparatus especially designed for the use of amateurs.

When they 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 was destined to be henceforth a popular and cultivating recreation.

The Cameras they 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 their factory.

Every article enumerated in this Catalogue has the guarantee of the Scovill Manufacturing Co., established in 1802, and well known throughout the world for fair and honorable dealing as well as for the marked superiority of their photographic apparatus and specialties.

New Catalogues, circulars, etc., will be mailed to any one whose address is sent with the request for copies.

CATALOGUE

—OF—

SCOVILL'S

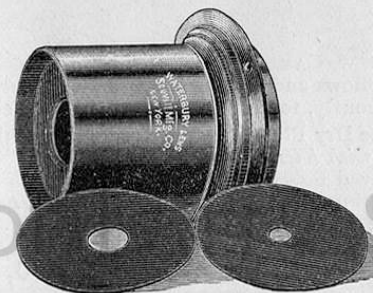


AMATEUR
PHOTOGRAPHIC REQUISITES.

SCOVILL'S

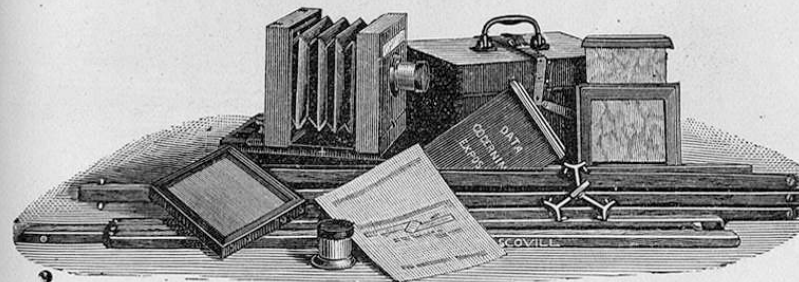
FAVORITE APPARATUS OUTFITS.

All Articles of which are Warranted Accurate in Every Respect.
These Outfits are lighter, more compact, far handsomer and more accurate than any which are offered at the same price. Many professional photographers have bought them and use them constantly.



In each outfit the Waterbury Lens, to which stops have recently been added, is worth the price of the whole outfit.

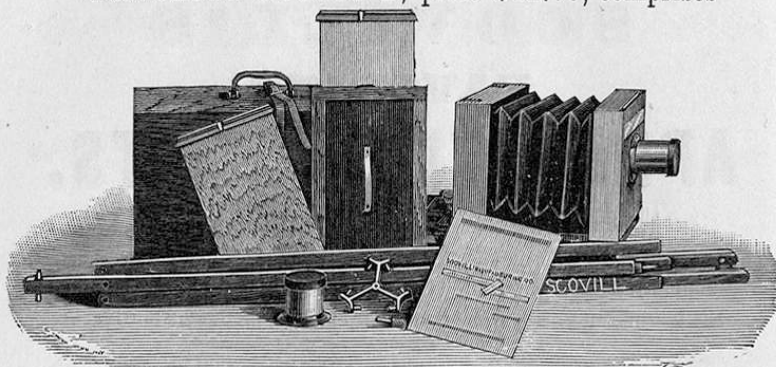
FAVORITE OUTFIT A, price \$10.00, comprises



A FAVORITE VIEW CAMERA with vertical shifting front, single swing movement, rubber bellows and folding platform with patent latch for making bed rigid instantaneous y, to produce 4x5 inch pictures, with

- 1 Patent Double Dry Plate Holder (Reversible), with patent Registering Slides.
- 1 Taylor Improved Folding Tripod.
- 1 No. A "Waterbury" Achromatic Lens with a set of Stops.
- 1 Carrying Case.

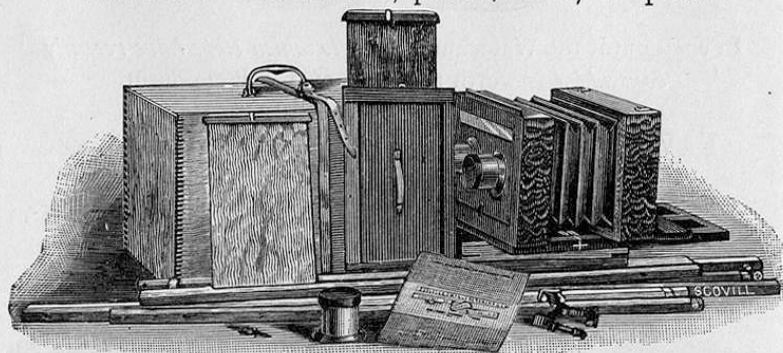
FAVORITE OUTFIT B, price \$12.00, comprises



A FAVORITE VIEW CAMERA with *vertical shifting front, single swing movement*, rubber bellows and folding platform, with *patent latch* for making bed rigid instantaneously, to produce pictures 5x8 inches; also

- 1 Patent Double Dry Plate Holder (Reversible), with *patent Registering Slides, and with Kits.*
- 1 Taylor Improved Folding Tripod.
- 1 No. B "Waterbury" Achromatic Lens *with a set of Stops.*
- 1 Carrying Case.

FAVORITE OUTFIT C, price \$18.50, comprises



A FAVORITE VIEW CAMERA with *vertical shifting front, single swing movement*, rubber bellows and folding platform, with *patent latch* for making bed rigid instantaneously, to produce 5x8 inch pictures.

This Camera is constructed so as to make either a *Picture* on the full size of the plate (5x8 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, 4x5 inches each, of dissimilar objects can be made on the one plate. Included in this outfit are also

- 1 Patent Double Dry Plate Holder (Reversible), with *patent Registering Slides, and with Kits.*
- 1 Large "Waterbury" Achromatic Lens, *with Stops.*
- 1 Pair "Waterbury" Achromatic Matched Stereoscopic Lenses, *each with Stops.*
- 1 Taylor Improved Folding Tripod.
- 1 Carrying Case.

FAVORITE OUTFIT D, price \$14.00, comprises

A FAVORITE VIEW CAMERA with *vertical shifting front, single swing movement*, rubber bellows and folding platform, with *patent latch* for making bed rigid instantaneously, to produce pictures 6½x8½ inches; also

- 1 Patent Double Dry Plate Holder (Reversible), with *patent Registering Slides, and with Kits.*
- 1 Taylor Improved Folding Tripod.
- 1 No. B "Waterbury" Achromatic Lens *with a set of Stops.*
- 1 Carrying Case.

FAVORITE OUTFIT E, price \$26.00, comprises

A FAVORITE VIEW CAMERA with *vertical shifting front, single swing movement*, rubber bellows and folding platform, with *patent latch* for making bed rigid instantaneously, to produce pictures 8x10 inches; also

- 1 Patent Double Dry Plate Holder (Reversible), with *patent Registering Slides, and with Kits.*
- 1 Taylor Improved Folding Tripod.
- 1 No. C "Waterbury" Achromatic Lens *with a set of Stops.*
- 1 Carrying Case.

EQUIPMENT A-A.

Consists of FAVORITE APPARATUS OUTFIT A, with

- 1 Scovill Focusing Cloth.
- 1 Dozen 4x5 Dry Plates.
- 1 W. I. A. Improved Ruby Lantern.

Complete for field service, Price, \$12.25.

EQUIPMENT B-B.

Consisting of FAVORITE APPARATUS OUTFIT B, with the additional articles enumerated in A-A. (Dry Plates 5x8 size.)

Complete for field service, Price, \$15.00.

EQUIPMENT C-C.

Consisting of FAVORITE APPARATUS OUTFIT C, with the additional articles mentioned in Equipment A-A. (Dry Plates 5x8 size.)

Complete for field service, Price, \$21.50.

EQUIPMENT D-D.

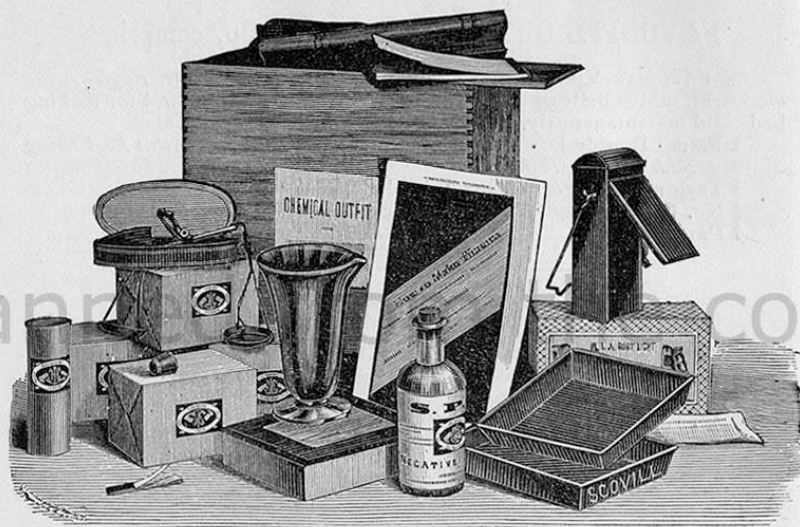
Consisting of FAVORITE APPARATUS OUTFIT D, with the additional articles enumerated in A-A. (Dry Plates 6½x8½ inches.) Price, \$18.00.

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 equipments on page 31.

SCOVILL'S

Pure Chemicals & Accessories

FOR MAKING NEGATIVES.



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

- | | |
|---|---------------------------------|
| 1 pkg. S.P.C. Carbonate Soda Developer, | 1 lb. Alum, |
| 2 4x5 Glossy Rubber Pans, | 1 bot. S.P.C. Negative Varnish, |
| 1 4 oz. Graduate. | 1 doz. 4x5 Dry Plates, |
| 1 Minum Graduate, | 1 Scovill Focusing Cloth, |
| 1 oz. Bromide Ammonium, | 1 W. I. A. Ruby Lantern, |
| 1 lb. Hyposulphite Soda, | 1 Russell Negative Clasp. |

PRICE, COMPLETE, \$5.25.

For use with any 5x8 Outfit we supply the same goods, with the exception of the substitution of 5x8 Pans and Plates for the 4x5 size.

PRICE, 4 1/4 x 5 1/2 DEVELOPING OUTFIT, \$5.50.

" 5x8	"	"	6.50.
" 6 1/4 x 8 1/4	"	"	7.00.
" 8x10	"	"	8.50.

BLUE PRINTS.

S. P. C.

Ferro-Prussiate Paper Outfit for Printing and Mounting 4x5 Blue Print Pictures.

- | | |
|---|-------------------------------------|
| 1 4 x 5 Printing Frame. | 1 Glass Form (for trimming prints). |
| 1 4 1/2 x 5 1/2 S.P.C. Vulcanite Pan. | 1 Robinson's Straight Trimmer. |
| 3 dozen 4 x 5 S.P.C. Ferro-Prussiate Paper. | 1/2 Pint Jar Parlor Paste. |
| 2 dozen sheets 6 1/2 x 8 1/2 Card-board. | 1 1 inch Paste Brush. |

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

S. P. C.

Ferro-Prussiate Paper Outfit for Printing and Mounting 5x8 Blue Print Pictures.

This Outfit is like the one above, but with Printing Frame, Vulcanite Tray, Ferro-Prussiate Paper and Card-board adapted to 5x8 Pictures.

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

6 1/2 x 8 1/2 Ferro-Prussiate Paper Outfit. Price, \$4.25.



S. P. C.

Outfit for Printing, Toning, Fixing and Mounting 4x5 Pictures.

- | | | |
|--|-------------------------|---|
| 1 4 x 5 Printing Frame. | Price complete, \$4.87. | 1 lb. Hyposulphite of Soda. |
| 1 5 x 7 Porcelain Pan Deep. | | 2 dozen sheets 6 1/2 x 8 1/2 Card-board with Gilt Form. |
| 1 4 1/2 x 5 1/2 S. P. C. Vulcanite Tray. | | 1 1/2 Pint Jar Parlor Paste. |
| 2 dozen 4 x 5 S. P. C. Sensitized Albumen Paper. | | 1 1 1/2 inch Bristle Brush. |
| 1 bottle French Azotate. } For | | 1 Glass Form (for trimming prints). |
| 1 " Chlor. Gold, 7 1/2 gr. } toning. | | 1 Robinson's Straight Trimmer. |
| 1 2 ounce graduate. | | Securely packed in a Wooden Box. |

S. P. C.

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

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

Price complete, \$6.38. Securely packed in a Paper Box.

4 1/4 x 5 1/2	Printing and Toning Outfit.	Price, \$5.00.
6 1/2 x 8 1/2	" " " "	7.00.
8 x 10	" " " "	8.50.

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 <i>Favorite Apparatus</i> Outfit A.....	\$10 00
Also 1 <i>Developing</i> Outfit 4 x 5 (see page 31.)...	5 25
" 1 <i>Sensitized Paper</i> Outfit, 4 x 5 (see page 31.).....	4 87

Price, \$20.00.

EQUIPMENT B-B-B.

Complete in every Requisite for making the Highest Class Pictures.

Consisting of <i>Favorite Apparatus</i> Outfit B.....	\$12 00
Also 1 <i>Developing</i> Outfit 5 x 8 (see page 31.).....	6 50
" 1 <i>Sensitized Paper</i> Outfit (see above).....	6 38

Price, \$24.50.

EQUIPMENT C-C-C.

Complete in every Requisite for making the Highest Class Pictures.

Consisting of <i>Favorite Apparatus</i> Outfit C.....	\$18 50
Also 1 <i>Developing</i> Outfit 5 x 8 (see page 31.).....	6 50
" 1 <i>Sensitized Paper</i> Outfit (see above).....	6 38

Price, \$31.00.

EQUIPMENT D-D-D.

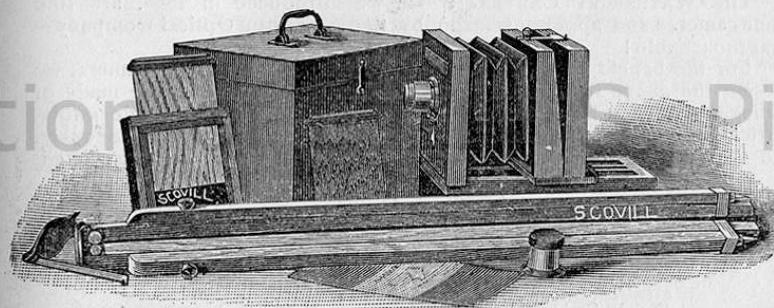
Consisting of <i>Favorite Apparatus</i> Outfit D.....	\$14 00
Also 1 <i>Developing</i> Outfit (see page 31.).....	7 00
" 1 <i>Sensitized Paper</i> Outfit (see above).....	7 00

Price, \$28.00.

NEW YORK

DRY PLATE OUTFITS

INTRODUCED IN 1884.



These outfits are unsurpassed in neatness, lightness, and compactness, yet there is no question about their durability or serviceable qualities. On this account they have found favor everywhere. Each one is supplied with a patent reversing attachment, which has been styled "the lightning reverser."

New York Outfit 601, size 4 1/4 x 5 1/2, consisting of
 1 Finely Finished Single Swing Camera, with Folding Bed and Improved Dry Plate Holder, with Kits.
 1 No. 1 Extension Tripod, with Patent Reversing Attachment.
 1 No. A Waterbury Lens, with a set of Stops, and
 1 Compact Carrying Case, with Handle. Price, \$12.00.

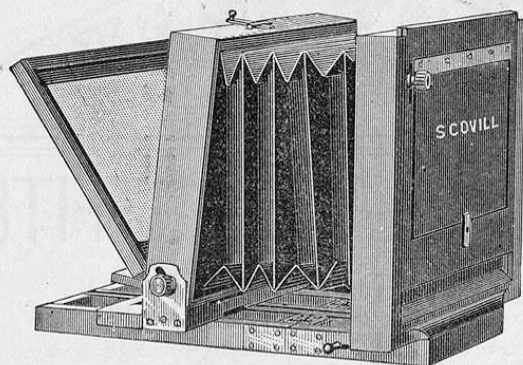
New York Outfit 601A, size 4 1/4 x 6 1/2, same as described above, except in respect to size. Price, \$13.00.

New York Outfit 602, size 5 x 8, same as described above, except in respect to size. Price, \$15.00.

New York Outfit 603, size 6 1/2 x 8 1/2, same as described above, except in respect to size. Price, \$18.00.

New York Outfits not made larger than 6 1/2 x 8 1/2 size.

WATERBURY OUTFITS.



THE WATERBURY CAMERAS which we introduced in 1885, are like other cameras and apparatus made by the American Optical Company—unapproachable!

For the benefit of such as have not seen a Waterbury Camera, we present the above illustration, and add that these cameras are made of mahogany. They have rubber bellows, folding platform, single swing, vertical shifting front, *patent latch* for making bed rigid instantaneously, and are as light and compact as substantial cameras can be constructed.

Fitted with
Eastman-Walker
Roll-Holder.
New Model.

4x5 Waterbury Outfits, Complete.....\$12 00 27 00

CONSISTING OF

- 1 Single Swing Camera, described above.
- 1 New Style Double Dry Holder, with *Patent Registering Slides*.
- 1 Wooden Carrying Case.
- 1 Improved Taylor Tripod.
- 1 No. A Waterbury Lens *with a set of Stops*.

5x8 Waterbury Outfits, Complete.....\$16 50 36 50

CONSISTING OF

- 1 Single Swing Camera, described above.
- 1 New Style Double Dry Holder, with *Patent Registering Slides*.
- 1 Wooden Carrying Case.
- 1 Improved Taylor Tripod.
- 1 No. B Waterbury Lens *with a set of Stops*.

6½x8½ Waterbury Outfits, Complete....\$20 00 44 00

CONSISTING OF

- 1 Single Swing Camera, described above.
- 1 New Style Double Dry Holder, with *Patent Registering Slides*.
- 1 Wooden Carrying Case.
- 1 Improved Taylor Tripod.
- 1 No. B Waterbury Lens *with a set of Stops*.

Latest! { $4\frac{1}{2} \times 5\frac{1}{2}$ Waterbury Outfit, complete\$14 00
 $4\frac{1}{2} \times 6\frac{1}{2}$ " " " 15 00
 5×7 " " " 16 00

AMERICAN OPTICAL CO.'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 \$22.00, Consists of

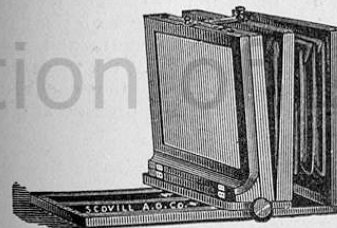
- A MAHOGANY POLISHED CAMERA for taking pictures 4×5 inches, with *Folding Bellows Body*, single swing, hinged bed, and brass guides. It has a shifting front for adjusting the sky and foreground, with
- 1 Daisy Double Dry Plate Holder, with *Patent Registering Slides*; also
- 1 Canvas Carrying Case.
- 1 Scovill Adjustable Tripod.

OUTFIT No. 202 A, price \$24.00,

The same as No. 202, but with Camera for taking pictures $4\frac{1}{2} \times 5\frac{1}{2}$ inches.

OUTFIT No. 202 B, price \$26.00, for pictures $4\frac{1}{2} \times 6\frac{1}{2}$ inches.

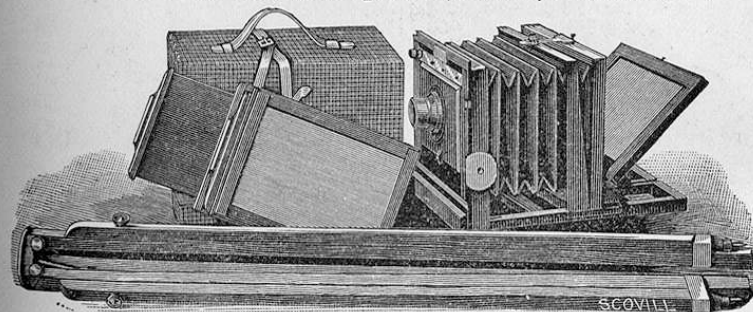
OUTFIT No. 203, price \$30.00, Consists of



A FOLDING MAHOGANY CAMERA, well known as the '76 Camera (see illustration). It is adapted for taking 5×8 inch pictures, and also for stereoscopic views—together with

- 1 Daisy Double Dry Plate Holder, with *Patent Registering Slides*; also
- 1 Canvas Carrying Case.
- 1 Scovill Adjustable Tripod.

OUTFIT No. 204, price \$42.00, Consists of



A FOLDING MAHOGANY CAMERA of finest style and finish for taking $6\frac{1}{2} \times 8\frac{1}{2}$ inch pictures, with

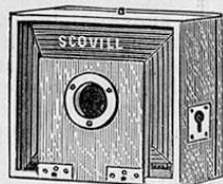
- 1 Daisy Dry Plate Holder, with *Patent Registering Slides*; also
- 1 Canvas Carrying Case.
- 1 Scovill Extension Tripod, No. 3.

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 page 52.

For Developing and Sensitized Paper Outfits to be used with the above, refer to pages 31 and 32.

TOURISTS' POCKET OUTFITS.

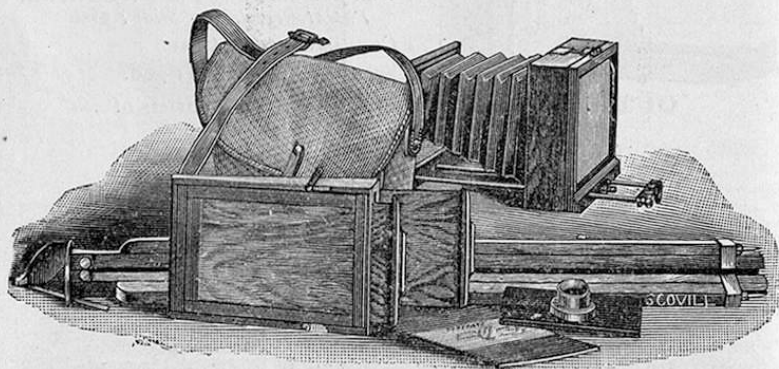


(Extract from PHOTOGRAPHIC TIMES,
March, 1883.)

AMERICAN OPTICAL COMPANY'S TOURISTS'
POCKET CAMERA.

TOURISTS' POCKET CAMERA FOLDED.

When folded up, a 4x5 Tourists' Camera measures but $5\frac{1}{2} \times 6\frac{1}{2} \times 2$ 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 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 $1\frac{1}{2}$ pounds for the 4x5 size) is on the center of the tripod. 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.—4x5 Tourist's Pocket Camera, with
1 Daisy Double Dry Plate Holder, with Patent Registering Slides.
1 Scovill Extension Tripod No. 1, with patent reversing attachment.
1 Canvas Carrying Case with Shoulder Strap.

Price, complete, \$22.00.

Tourist's Pocket Outfit No. 0207.—5x8 Tourist's Pocket Camera, with
1 Daisy Double Dry Plate Holder, with Patent Registering Slides.
1 Scovill Extension Tripod No. 2, with patent reversing attachment.
1 Canvas Carrying Case with Shoulder Strap.

Price, complete, \$30.00.

We recommend the purchase and use with the above Outfits of a Lens or Lenses selected from the list on page 52.

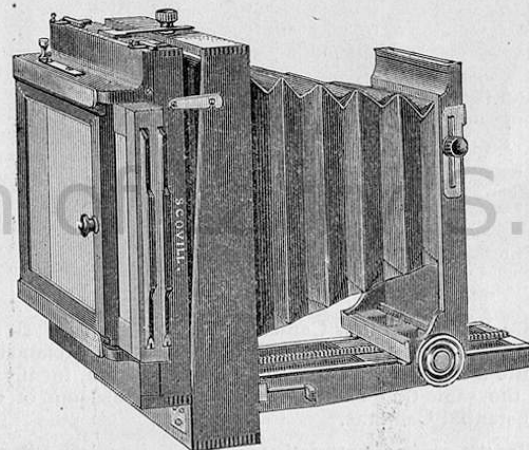
For Developing and Sensitized Paper Outfits to be used with the above, refer to pages 31 and 32.

SAINT LOUIS Reversible-Back Cameras.

(PATENTED.)

IN addition to the desirable features which the Back Focus Reversible Camera possesses (see description below) the St. Louis Reversible-Back Cameras have the rack and pinion movement, *patent latch* for making the bed rigid instantaneously, and the ground-glass so arranged that the holder may be slid in front of it, as shown in the illustration.

Each Camera is supplied with one Daisy Holder with *patent Registering Slides* and canvas case.



THE growing use of dry plates, and the desire for rapid exposures, led to the introduction of the American Optical Patented Reversible Back Cameras, and because they add to the grace and celerity of view-taking they have become vastly popular. A novel arrangement of a detachable carriage at the back combines such a multiplicity of adjustments in itself that a dry-plate holder may be reversed or be set for either an 8x10 upright or horizontal picture—all of these movements, without once changing the dry-plate holder in the carriage, which may be made to take an S. G. C., but not a Bonanza Holder.

SAINT LOUIS REVERSIBLE-BACK CAMERAS.

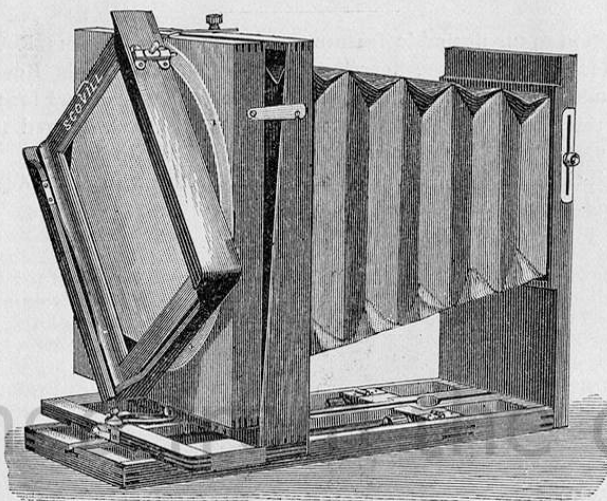
For View.	Single		Double	
	Swing-back.		Swing-back.	
$4\frac{1}{4} \times 5\frac{1}{2}$	\$26 00	\$30 00	.....	.....
5 x 7.....	32 00	35 00	\$52 00	\$55 00
$6\frac{1}{2} \times 8\frac{1}{2}$	36 00	40 00	60 00	64 00
8 x 10.....	40 00	44 00	70 00	74 00
11 x 14.....	60 00	64 00	102 00	106 00

Not made front focus above 11x14 size.

Flammang's Patent Revolving-Back Cameras.

(PATENTED.)

Each Incased in a Canvas Bag, with Handle.



"These are the finest View Cameras ever constructed," so says every photographer who has examined any of them, and this exclamation is not merely a tribute to the beauty and grace of their design, for invariably the desire has at the same time been expressed to possess one of these truly novel and substantial Cameras.

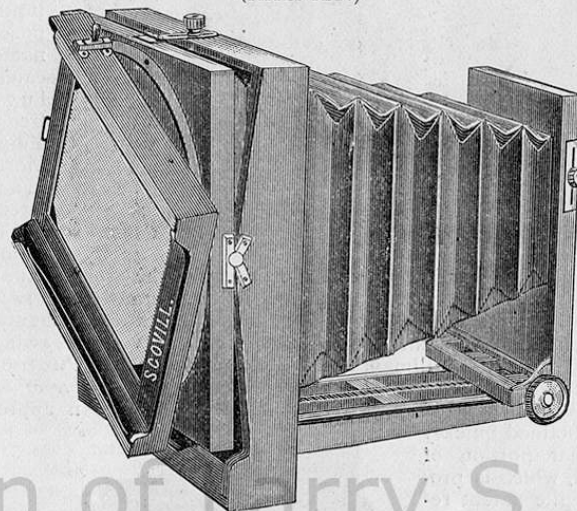
Wherein lies the merit and attractiveness of the Revolving-Back Camera, that photographers want to cast aside cameras now in use and procure one of this new pattern? Briefly stated, it enables the view taker to secure either an upright or a horizontal picture without changing the plate holder after it has been slid into the carriage. No other camera can with such wondrous ease and celerity be changed from the vertical to the upright or *vice versa*. The carriage is simply turned about in the circle and automatically fastened. By this latter provision the carriage may be secured at either quarter of the circle. Ordinarily, the slide will be drawn out of the holder to the right; but in certain confined situations, the ability to withdraw the slide to the left enables the photographer to obtain a view which he could not get with the usual provision in a camera. The photographer of experience is well aware of the difficulty, when taking an upright picture with a large camera without the revolving back feature, of reaching up to draw out the slide at the top, and, what is more essential, of getting out the slide without fogging the plate in the holder.

Grace and strength are combined in the Revolving-Back Camera, and its highly-desirable features are gained without the sacrifice of steadiness or any other essential principle in a good camera. Indeed, its merit is such that out-door photography has been advanced and made more attractive by its introduction.

For a more detailed description consult Scovill's general catalogue.

Revolving-back Camera, Front Focus.

(PATENTED.)



PRICE LIST.

Revolving-back Cameras, each incased in a canvas bag, with handle, and above 11x14 size, with two handles.

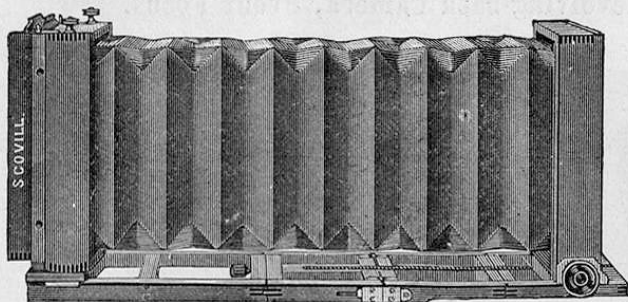
	REVERSIBLE.	Single Swing.		Double Swing.	
		Single Swing.	Double Swing.	Single Swing.	Double Swing.
550A. For View	4 x 5 in.	\$31 00	\$36 00	\$46 00	\$51 00
551.	4 1/4 x 5 1/2 "	33 00	38 00	.....	.....
551AB.	4 1/4 x 6 1/2 "	34 00	39 00	.....	.....
551A.	5 x 7 "	35 00	40 00	55 00	60 00
551B.	5 x 8 "	35 00	40 00	55 00	60 00
552.	6 1/2 x 8 1/2 "	45 00	50 00	69 00	74 00
553.	8 x 10 "	50 00	55 00	80 00	85 00
554.	10 x 12 "	65 00	70 00	101 00	106 00
555.	11 x 14 "	77 50	82 50	119 50	124 50
556.	14 x 17 "	90 00	95 00	140 00	145 00
557.	17 x 20 "	105 00	110 00	170 00	175 00
557A.	18 x 22 "	110 00	115 00	185 00	190 00
558.	20 x 24 "	120 00	130 00	200 00	210 00
559.	25 x 30 "	165 00	175 00	.....	.....

These Cameras are fitted with Daisy Dry-plate Holders.

Please state, when ordering any size below 10x12, whether front or back focus is desired.

Revolving-back Cameras with front focus not made above 8x10 size.

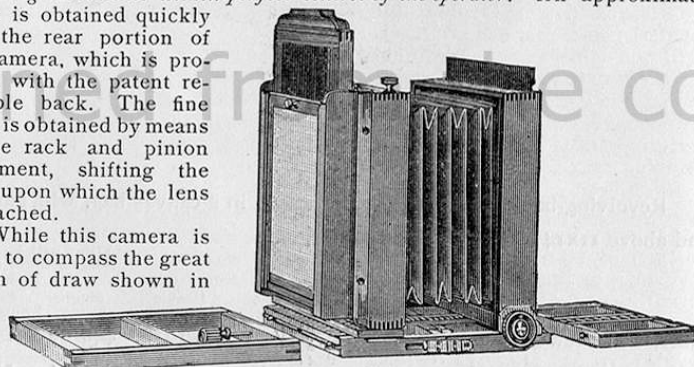
THE SCOVILL MANIFOLD CAMERA.



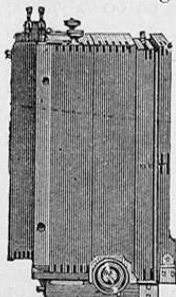
While this camera serves manifold purposes as its name indicates, nothing could be more simple or more easily manipulated. The Manifold Camera has

special advantages peculiar to itself and possesses the greatest number of desirable features which can be combined in a camera without sacrificing lightness and compactness, or having complicated adjustments. The unique device which controls the horizontal and vertical swings was patented by Mr. W. J. Stillman, of the editorial staff of the PHOTOGRAPHIC TIMES. To this has been added a central latch for the purpose of bringing the swing movements within perfect control of the operator. An approximate focus is obtained quickly with the rear portion of the camera, which is provided with the patent reversible back. The fine focus is obtained by means of the rack and pinion movement, shifting the front upon which the lens is attached.

While this camera is made to compass the great length of draw shown in



the first illustration, the rear portion of the bed may be wholly detached, and when desired, one-third of the remaining portion of the platform; a great advantage when photographing interiors, when an obtrusive tail board renders focusing almost an impossibility. With one-half of the bed taken



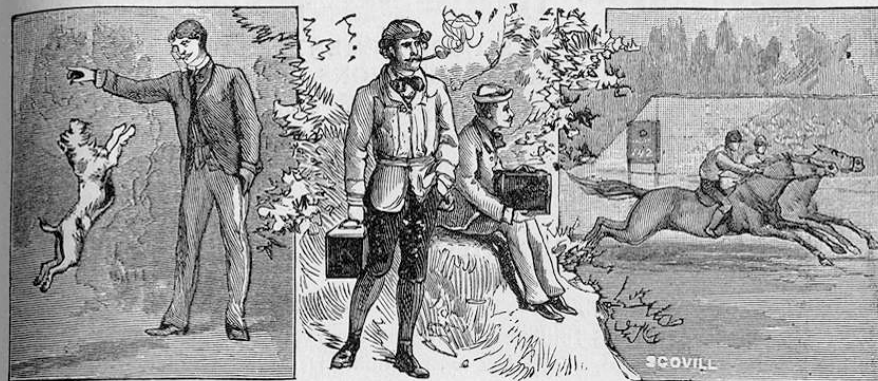
off, this camera is still of the usual length of draw. The ground glass, when not in use, is displaced, *not detached*, by having the plate holder slid in front of it. This arrangement of ground glass and plate holder is shown in the second view. Still another noticeable feature is the absence of clamping screws from the front boards, to move which one needs but to press firmly against the lens. The bed folds in front of and behind the camera, and has the patented latch recently devised at the American Optical Co.'s factory. PRICE LIST, including Canvas Case for Camera and one Holder, with *patent Reg. Slides*.

3 1/4 x 4 1/4 size... \$34 00	4 3/4 x 6 1/2 size.... \$41 00	6 1/2 x 8 1/2 size. ... \$52 50
4 x 5 size..... 38 00	5 x 7 size..... 42 00	8 x 10 size. 58 00
4 1/4 x 5 1/2 size... 40 00		

Fitted with Eastman-Walking Roll Holder, New Model:

4x5 size, \$53 00; 4 1/2 x 6 1/2, \$58 50; 5x7, \$62 00; 6 1/2 x 8 1/2, \$76 50; 8x10, \$88 00

THE SCOVILL DETECTIVE CAMERA.



It has not come to be generally known, but such is the fact, that Artists of renown and shrewd Detectives carry about these Cameras, and pictures are secured by them for their different lines of study through their instrumentality in a manner which is perfectly simple—in fact, it requires no skill other than to get within the range of focus of the unsuspecting victim. As the party, whether man, woman, or child, is not aware that anything unusual is transpiring, the expression of the countenance and the pose are not arranged with reference to their appearance in a picture. A quick working lens is hidden in the camera, and also a few plate holders. By pressing on a spring the whole operation of exposure is completed.

It followed naturally upon the introduction of the Roll Holder that it should be applied to the peerless SCOVILL DETECTIVE CAMERA, and this has been done in a manner that displays the greatest ingenuity. Instead of three double dry-plate holders, but one will accompany the Roll Holder.

Scovill's Roll Holder Detective Camera, for 3 1/4 x 4 1/4 Pictures, with Instantaneous Lens..... \$65 00

Scovill's Roll Holder Detective Camera, for 4x5 Pictures, with Instantaneous Lens..... 75 00

The price for the 3 1/4 x 4 1/4 Scovill Detective Camera, with Instantaneous Lens, three double Dry-plate Holders, and room in the case for six double Holders..... 50 00

The price for the 4x5 Scovill Detective Camera, with Instantaneous Lens, three double Dry-plate Holders, and room in the case for six double Holders..... 60 00

Many amateurs have declared that the pleasure of picture-taking was not fully revealed to them until they had procured and tried one of the SCOVILL DETECTIVE CAMERAS.

Scovill's Outfit for Making Lantern Slides consists of

- 1 doz. Thin Crystal Glass.
- 2 " Black Mats.
- 1 package Black Adhesive Paper.
- 1 doz. 3 1/4 x 4 1/4 Gelatino-Albumen Dry Plates.
- 1 package S. P. C. Pyro and Potash Developer.
- 2 4 1/2 x 5 1/2 Solid Glass Pans.
- 1 lb. Hyposulphite Soda.

The above, packed in wooden case, price complete..... \$3 50
For enlarging, reducing, or copying Negatives to make Lantern Slides, we recommend the use of one of the Scovill Enlarging, Reducing and Copying Cameras.

Photographic Outfits for Bicyclists,

WITH WHICH TO SECURE MEMENTOES OF
PLEASANT EXCURSIONS.

So popular has amateur photography become among wheelmen that the two amusements are now often combined. The "Wheel" allows unbounded opportunities to the amateur photographer to gather choice landscape views.

"NE PLUS ULTRA" BICYCLISTS' PHOTO-OUTFIT (COMPLETE).

PRICE, - - - \$10.00.

Consisting of a $3\frac{1}{4} \times 4\frac{1}{4}$ Imitation Mahogany Camera with Vertical Shifting Front, Folding Bed, with *patent latch*, Double Dry Plate Holder, with *patent Registering Slides* and Hinged Ground Glass.

A UNIVERSAL JOINT BICYCLE ATTACHMENT,

A No. A WATERBURY LENS, with *Stops*,

A CANVAS BAG TO CARRY THE ABOVE, with *Shoulder Strap*.

The advantages of this outfit are its Lightness and Compactness, and the ease with which it can be brought into use—a new device on bed of the Camera permitting it to be made rigid, or to fold instantaneously. There are no loose pieces. The outfit complete weighs 2 pounds 3 ounces.

NICKEL-PLATED BICYCLE ADJUSTABLE SUPPORT.....\$1.50

This has no loose pieces and is so accurately made as to have no side play.

THE "MIGNON" BICYCLISTS' PHOTO-OUTFIT (COMPLETE).

Consisting of a $3\frac{1}{4} \times 4\frac{1}{4}$ Finely Polished Mahogany Camera, with Swing Back, Vertical Shifting Front, Hinged Ground Glass, Folding Bed with *Patent Latch*, Rack and Pinion Movement (Front Focus). In improvement, and has no loose pieces. Nothing finer, short, it has every more attractive and yet simple was ever made.

A *Universal Joint Bicycle Attachment*.

A $5\frac{1}{2}$ inch *Morrison Wide-Angle Instantaneous Lens*, pronounced by authorities on optics to be without a peer. The Rotary Shutter with this Lens is the Most Compact and the Lightest known.

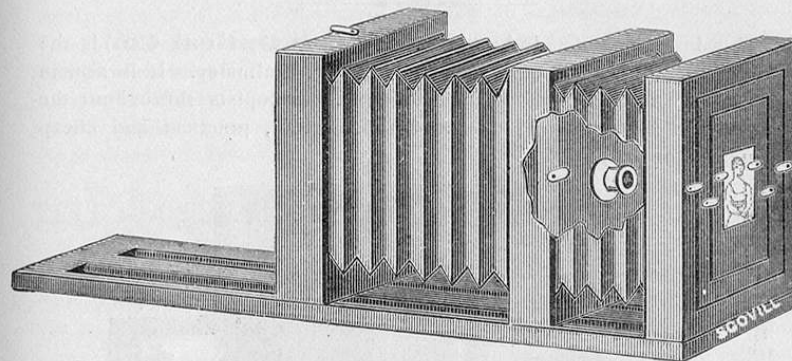
A *Canvas Saddle Bag* lined with flannel to prevent marring of the fine finish of the camera.

THIS OUTFIT COMPLETE WEIGHS LESS THAN TWO POUNDS.

Price of "Mignon" Bicyclists' Photo-Outfit Complete, \$70.00.
Without Lens, \$25.00.

With the lenses just described, clear, sharp pictures can be obtained which will make fine transparencies and lantern slides, or which can be enlarged up to 8x10 size.

The Scovill Enlarging, Reducing and Copying Cameras.



When ordering, please specify number and sizes of kits wanted.

Size, $6\frac{1}{2} \times 8\frac{1}{2}$,	Price, \$30.00	Size, 11x14,	Price, \$60.00
" 8x10,	" 35.00	" 14x17,	" 72.00
" 10x12,	" 48.00		
Size, 17 x 20,		- - \$90.00.	

Special sizes and styles made to order.

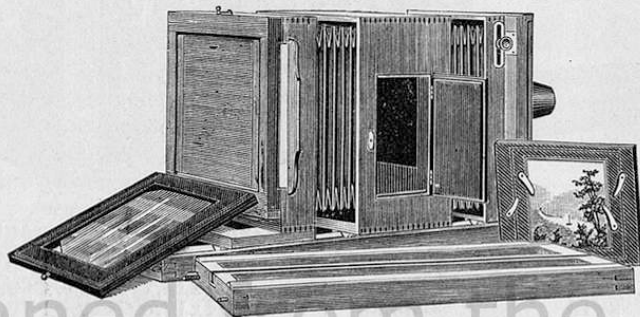
The form of construction of this new Camera is made apparent by the illustration here shown. The experienced copyist will not need any such simple directions for use as we append.

DIRECTIONS FOR USE.:

To copy a negative in the natural size, place it in the kit on the front of Camera and button it in. Attached to the center frame of the Camera is a division upon which, on the side toward the Camera front, a Lens is mounted. Suppose this to be a quarter-plate Portrait Lens, the focal length of which we will suppose to be 4 inches—draw back the center frame and the Lens twice the focal length of the Lens (8 inches); slide the back frame with ground glass the same distance from the center frame. To enlarge with the same Lens to eight times the size of the original, the center of the Lens must be $4\frac{1}{2}$ inches from the negative, and the ground glass be 36 inches from the center of the Lens. To reduce in the same proportion, reverse and have 36 inches from the center of the Lens to the negative, and from the center of Lens to ground glass $4\frac{1}{2}$ inches.

WALMSLEY'S PHOTO-MICROGRAPHIC CAMERA.

This instrument (made by the **American Optical Co.**) is the result of several years of practical study by Mr. Walmsley. It is now in use by very many Colleges and leading Microscopists throughout the country, and is confidently offered as an efficient, practical and cheap instrument for the purpose.



It is made in two forms: the cheaper (selling for \$18.00) is adapted only to the making of negatives on plates $3\frac{1}{4} \times 4\frac{1}{4}$, or $4\frac{1}{4} \times 5\frac{1}{2}$, as may be necessary. The complete form (costing \$30) is also a miniature enlarging, reducing and copying camera, admirably adapted to the production of lantern transparencies from any size negative up to $4\frac{1}{4} \times 5\frac{1}{2}$. The following description of the complete camera first published in the PHOTOGRAPHIC TIMES, is also applicable to the cheaper form, excepting that the latter cannot be used for enlarging, reducing or copying. In all other particulars the two boxes are identical.

The camera (of mahogany) is square, carrying a Flammang single plate holder for $4\frac{1}{4} \times 5\frac{1}{2}$ plates; usable vertically or horizontally, and with kits for $3\frac{1}{4} \times 4\frac{1}{4}$ plates. The bellows are in two sections, with a central division of mahogany, which carries a removable partition, to which a suitable rectilinear photographic lens can be attached, for enlarging, reducing, or copying. A light-tight door on one side of this wooden section gives ready access to the lens for inserting or removing diaphragms, or other necessary manipulations, whilst a milled head, accessible from the same opening, clamps the lens bearing section, firmly to the bed of the camera at any desired point.

The bellows have an extension of two feet in addition to the length of the box, sliding very smoothly upon V-shaped ways, which for greater convenience are made in two sections, firmly attached to each other by wooden dowels, and a solid brass screw, worked by a milled head.

The bellows are firmly held at any desired point of extension by a cam, operated by a lever conveniently placed at the rear of the focusing screen, which latter is hinged at the bottom, and when not in use, lies out of the

way upon the extension bed. The screen itself is of the very finest ground glass, but is used only for arranging the portion of the object to be photographed properly in the center of the plate, as no surface can be ground finely enough to permit the sharp focusing of any delicately-lined object. For this purpose, a circle or disc of thin microscopic covering glass is attached with balsam to the center of the ground-glass screen, which clears away all the inequalities of the latter, and leaves an exquisitely fine surface to receive the image, which by using an ordinary focusing glass may be as sharply defined as in the eye-piece of the microscope.

The front of the camera (which is double-shifting, for the purpose of centering), carries a cone-shaped tube, which receives the tube of the microscope when the latter is inclined to a horizontal position, and conveys the image bearing rays of light therefrom into the body of the camera. This cone is removable, and in its place may be inserted kits, carrying negatives from quarter to half size for enlargement, or reduction to lantern slides as may be desired. Or a front board, bearing a lens, may be inserted in its place, converting the camera into a copying one. Indeed, a more complete instrument for all the purposes for which it was devised could scarcely be conceived or desired. Its design was the result of several years of work and experiment on the part of Mr. Walmsley; and the Scovill Mfg. Co. have carried out his plans in their usual masterly manner, leaving nothing to be desired.

In use, the camera is attached to a solid platform (which also carries the microscope and lamp) by a screw such as is used with an ordinary tripod. By this means any jar or tremor produced by a passing vehicle or other means, is communicated to microscope and camera alike, preventing any diminution of sharpness in the negative. By this arrangement also, the whole apparatus is so compact that, with the bellows closed, the operator can easily see the image upon the ground glass, and at the same time reach the milled heads upon the microscope controlling the stage and focusing movements, permitting the arrangement of the subject with the greatest nicety. But when the bellows are extended to their full length, some appliance becomes necessary to operate the fine adjustment of focus, whilst the eye can discern the changes upon the screen. This is most simply effected by Mr. Walmsley, in the employment of a fine cord passing in a groove around the periphery of the milled head of the fine adjustment screw, and thence through a series of hook eyes to the rear of the camera bed, where it is held taut by a couple of leaden weights. The slightest pull upon either cord moves the fine adjustment screw with the utmost nicety.

PRICE.

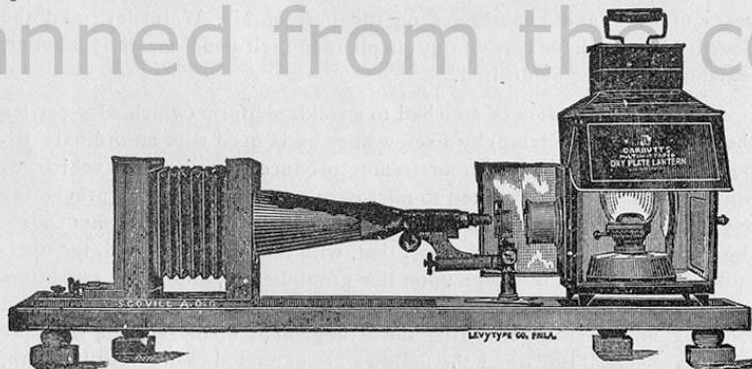
Walmsley Micro-Camera.....	\$18 00
“ “ enlarging, reducing, and copying pattern ..	30 00

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 $4\frac{1}{2} \times 5\frac{1}{2}$ size B Keystone Plates to make Negatives; also
- 1 dozen $3\frac{1}{2} \times 4\frac{1}{4}$ 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.

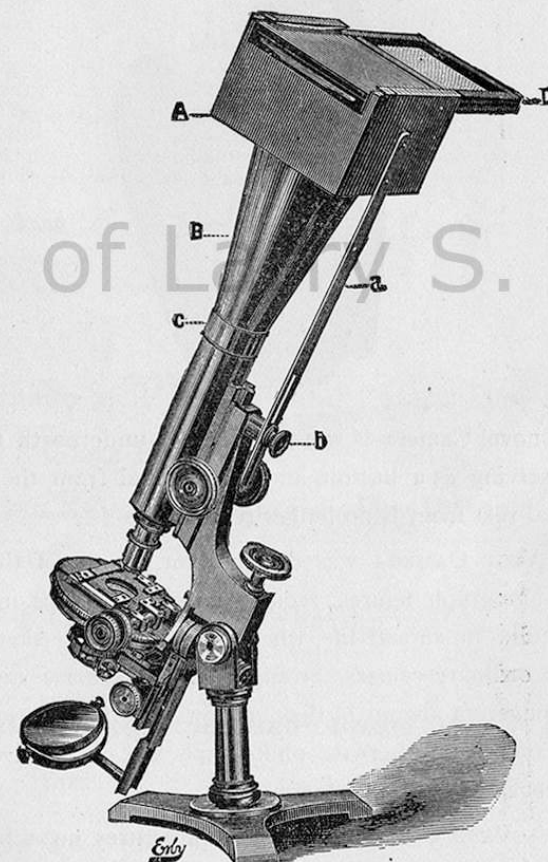
Circular containing directions for use sent with each outfit.

MERCER PHOTOMICROGRAPHIC

CAMERA.

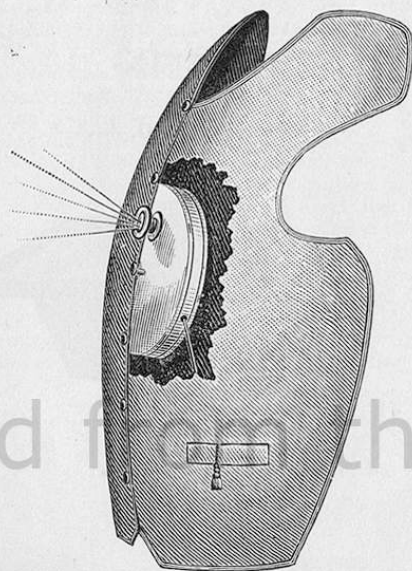
Size, $2\frac{3}{4} \times 3\frac{1}{4}$.

— Price, \$6.50. —



This Camera is provided with a Brass Cone and Plate Holder with Ground Glass attached, to slide back and forth in the carriage, as desired.

GRAY'S VEST CAMERA.



This novel Camera is worn concealed underneath the coat, the lens serving as a button, and is operated from the pocket. The special vest front is no longer required.

THE VEST CAMERA was designed for the use of those who wish to photograph figures, facial expression, groups in action, and all studies in animal life, where opportunity to sketch or to set up an ordinary camera, arrange the focus, draw slides, and such manœuvering are out of the question. Beautiful street scenes, that one could not otherwise photograph, are obtained with the instantaneous lens on this camera.

GRAY'S VEST CAMERA, making six pictures on a revolving plate.

PRICE, \$15 00.

Circular Dry Plates, Keystone Lightning Brand, for this Camera, \$1 20 per doz.

COMBINED Developing and Printing Outfit

FOR USE WITH

GRAY'S VEST CAMERA, COMPRISES

- One $6\frac{1}{2} \times 8\frac{1}{2}$ Flat Printing Frame.
- Two 5×8 Japanned Trays.
- One W. I. A. Improved Dry Plate Lantern.
- One 4-oz. Glass Graduate.
- One 1-oz. “ “
- One Package S. P. C. Pyro and Potash Developer.
- One 5×8 Glass Pan.
- One Dozen Keystone Lightning Dry Plates, Circular Form.
- Two Dozen $6\frac{1}{2} \times 8\frac{1}{2}$ Sensitized Paper.
- One Bottle French Azotate.
- One Bottle Chloride of Gold (small).
- One lb. Alum.
- One lb. Hyposulphite Soda.

Price of this outfit complete, packed ready for shipment,

\$7.00.

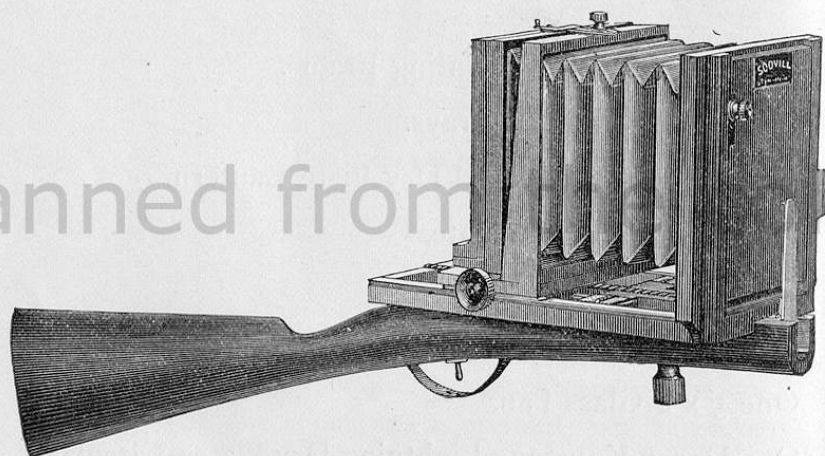
KILBURN GUN CAMERA,

For 4x5 Pictures.

(PATENTED.)

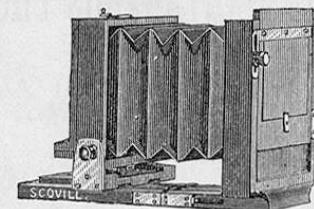
Price, \$27.00.

Gunstock Attachment only \$5.00.



A popular method of hunting lately introduced is in conformity with the laws of Mr. Bergh's Society for the Prevention of Cruelty to Animals. It never results in the death or even maiming of fish, flesh, or fowl, yet all three may be easily bagged. The weapon used is a late invention called the gun camera. It consists of a small camera mounted on a gunstock and provided with sights and triggers. Its ammunition is chemicals instead of powder and lead. It is both breech and muzzle loading, is light and simple in construction, and is used like an ordinary shot-gun. When a bird rises, it must be brought to the shoulder, a dead aim taken at the feathered object, and the trigger pulled. There is a slight shock as of an explosion, the bird flies on to cover unharmed, leaving its picture on the sensitive plate in the camera. It is all done in a moment of time. The plate is removed, another inserted, and the hunter is ready for the next object. The amateur may go forth with two dozen dry plates as his stock of ammunition. If he fire with precision at any stationary or moving object, he may be absolutely sure of bringing it down.—*New York Tribune.*

THE PETITE CAMERA.



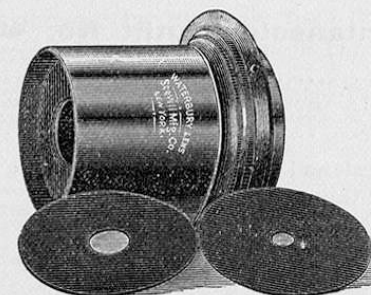
This camera was made to suit the refined taste of one of Vassar's fair students. The design on the part of the manufacturers was to reduce the impedimenta for an outing to the minimum, providing a $3\frac{1}{4} \times 4\frac{1}{4}$ camera (to make negatives of suitable size for lantern slides), with single swing, folding bed with *patent latch*, vertical shifting front, and other desirable improvements. So well has the design been carried out that many ladies will follow the example of Vassar's pupils, and learn the fascination of picture-taking with one of these finely-polished mahogany cameras. Gentlemen in search of a pocket camera need not seek further. The Petite Camera and an enlarging camera will by many be considered a satisfactory and complete equipment for such photographing as they desire to do.

PRICE.

Petite Camera with one double dry-plate holder, and <i>patent Registering Slides</i>	\$12 00
Same Camera with Scovill's adjustable (feather weight) tripod and canvas bag, with shoulder strap.....	17 00

WATERBURY LENSES.

Provided with a Set of Stops.



Notwithstanding what may be said or imagined to the contrary, it is a fact that many of the most exquisite photographs ever produced have been taken by the single achromatic lens, which is composed of a bi-convex lens made of crown glass, cemented by a transparent medium to a plano-concave lens formed of flint.

PRICE.

No. A, Single.....	\$3 50	No. B, Single.....	\$4 50
" A, Matched pair.....	7 00	" C, ".....	8 00

Darlot Hemispherical Wide-Angle Rectilinear View Lenses.



These Lenses embrace an angle of 90 degrees, and are valuable for taking views of buildings, interiors, etc., in confined situations, where those of longer focus cannot be used.

	Back Focus.	Size View.	Price.
No. 1,	2½ inches.....	For Stereoscopic Work, each.....	\$12 50
" 2,	3 ".....	" ".....	15 00
" 3,	5 ".....	8 x 10.....	20 00
" 4,	8 ".....	10 x 12.....	25 00

Darlot Rapid Hemispherical View Lenses.

These Lenses embrace an angle of from 60 to 75 degrees; are quick-acting, perfectly rectilinear, and provided with central stops. Will be found very fine lenses for landscape and outdoor groups; also for copying engravings, maps, architectural subjects, etc.

	Back Focus.	Size View.	Price.
No. 1,	5½ inches.....	5 x 6.....	\$15 00
" 2,	9 ".....	5 x 8.....	25 00
" 3,	10½ ".....	8 x 10.....	35 00

No. 1 can be had in matched pairs for Stereoscopic work.

Scovill's "Peerless" Quick Acting Stereoscopic Lenses,

FOR PORTRAITURE OR VIEWS.

The Lenses are especially designed for Stereoscopic Photography, and are so constructed that they will work well for interiors or exteriors.

They are particularly adapted for instantaneous work.

Diameter of Lenses, 1½ inch; focal length, 8½ inches.

By removing the back lens and substituting the front combination, a focal length of 5½ inches is obtained.

They are supplied with six Waterhouse diaphragms in morocco case.

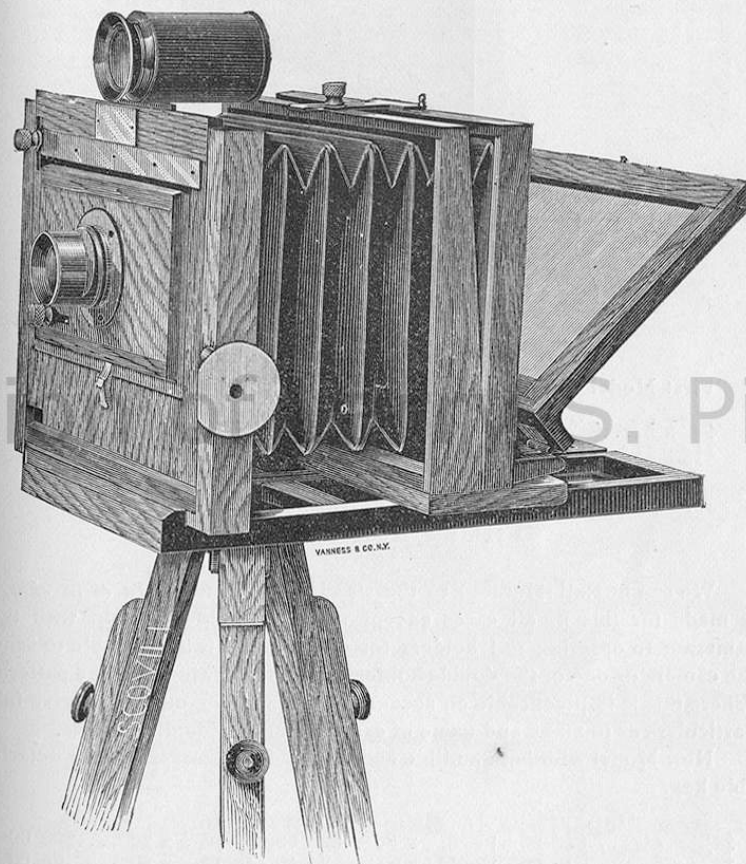
Price, per pair..... \$25 00 | Waterbury View Finder..... \$3 00

ALL STYLES OF LENSES SUPPLIED.

A New Departure in Morrison Wide-Angle Lenses.

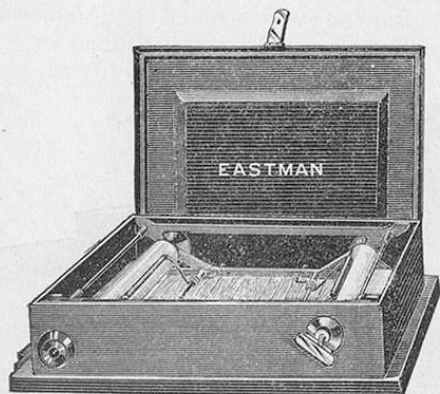
(Extract from PHOTOGRAPHIC TIMES, Vol. xiv, page 277.)

Opening the velvet-lined morocco case presented to us for our inspection, we find partitioned-off space containing an ordinary 5-inch Morrison Wide-Angle Lens, on which the front and back combinations are distinctly marked with the figure 5. Beside this, in cells, are four mountings with lenses of varying focal lengths, each marked in white with a number. By unscrewing the back combination marked 5, and putting in its place the mounting marked 6, a lens of 6-inch back focus is obtained. Again, by removing both these cells and replacing them with the two marked 8, a lens of 8-inch back focus is the result. By screwing in the front combination marked 5 and the back combination marked 4, a lens of 4-inch back focus is obtained. Putting a front combination marked 8 and a back marked 6, a focus of 7 inches is produced. Thus the operator has a choice of five focal lengths with the one lens. Price for the whole, \$80.



'76 Camera, with Morrison Lens and Waterbury View Finder.

Roll Holders.



Patented May 5, 1885. Label Registered, 1885.

First Model with audible indicator and detachable key.

4 x 5...\$12 00	5 x 7... \$16 00	6½ x 8½...\$20 00
4½ x 7½... 16 00	5 x 8... 16 00	8 x 10 ... 24 00

Fitting Roll Holders.

We can fit Roll Holders to the standard Cameras. *An extra charge* is made for this in all cases except when the holder is sold with the camera. In ordering roll holders for old cameras it is advisable to send the camera or one of the double holders to the factory to serve as a pattern. Where this is impracticable on account of distance or otherwise, give full particulars as to make and name of camera and outside dimensions.

New Model with both audible and visible indicators and non-detachable key.

†3¼ x 4¼...\$12 00	5 x 8...\$20 00	16 x 20 ...\$60 00
†4 x 5 ... 15 00	6½ x 8½ 24 00	17 x 20 65 00
†4¾ x 6½... 17 50	8 x 10... 30 00	18 x 22 75 00
*4½ x 7½... 20 00	10 x 12... 36 00	20 x 24 80 00
5 x 7 ... 20 00	11 x 14... 42 00	25 x 30 85 00
†5 x 7½... 20 00	14 x 17... 50 00	

* This size is made for 5 x 8 Cameras that are too small for our regular 5 x 8 holder viz.: Scovill's '76, and Waterbury. † English sizes. ‡ Visible indicator only.

All sizes of Roll Holders up to and including 11 x 14 carried in stock. Larger sizes to order.

☞ We send out with every Roll Holder a spool of plain paper, to enable the operator to learn to manipulate it in the white light.

Roll Holders.—EXTRA PARTS.

All parts of Roll Holders are made interchangeable, and any part can be furnished on application.

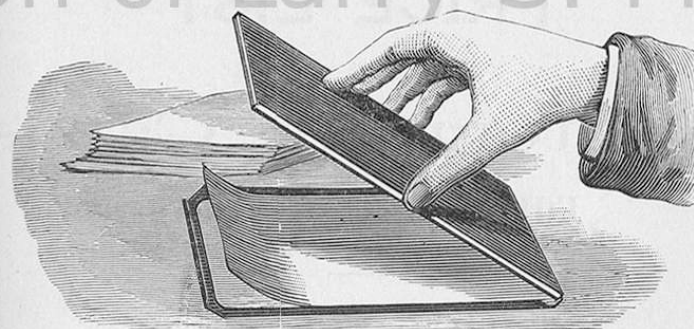
Extra Keys, old model... 25 cts. each.

EXTRA REELS.

3¼ inches.....50 cts.	11 inches.....\$1 00
4 "50 "	14 " 1 00
4½ "50 "	16 " 1 25
4¾ "50 "	17 " 1 25
5 "50 "	18 " 1 25
6½ "75 "	20 " 1 50
8 "75 "	25 " 2 00
10 "75 "	

Extra Reels enable the operator to remove the exposed paper from the roll holder without separating the exposures or rewinding the paper film, an operation that should always be avoided. Enough extra reels should be provided to carry all exposures that are intended to be made before developing. For instance, if 100 exposures are to be made on a trip, 3 extra reels are required. Each reel, as soon as full, is removed from the holder and replaced by another to take the paper from a fresh spool. The boxes in which the spools are sold serve to store the reels of exposed paper. Empty spools are thrown away.

Film Carriers.



Patented May 5, 1885.

	¾ in. thick.	¾ in. 1/8 in. thick. thick.		¾ in. thick.	¾ in. thick.	¾ in. thick.
3¼ x 4¼...\$0 25	\$0 25	—	6½ x 8½...\$0 40	\$0 40	\$0 40	\$0 40
4 x 5 30	30	—	8 x 10 .. 50	50	50	50
4¾ x 6½... 30	—	—	10 x 12 .. —	—	—	60
5 x 7 35	—	35	11 x 14 .. —	—	—	75
5 x 7½... 35	—	—	14 x 17 .. —	—	—	1 00
5 x 8 35	35	35				

Sizes not mentioned are not made and cannot be furnished.

In ordering carriers specify which thickness is wanted. The thicker the carrier the more rigid.

Double Holders that have the plate slide in from the end require the thinnest carrier, (¾).

The Daisy Holder will take the ¾ inch carriers when the septum is removed. As the carriers are opaque, the septum is not required.

Wet Plate Holders require the ¾ carriers.

ACCESSORIES

—FOR—

Scovill's  Amateur

Photo. Outfits.

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	.....	30

Plain Cards, with Square Gilt Line.

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

Thin Gold Beveled Edge Cards.

WITH CLEAN CUT EDGES—PURE NON-TARNISHABLE GOLD LEAF.

No. 26, Black, Chocolate, Olive, Dark Olive or Brown,
Enameled both sides.

No. 67, Maroon Face, Gray Backs.

Per Package of 25.

Cabinet size, Round Corners, 4¼ x 6½	.....	\$0 52
Boudoir " " 5¼ x 8½	.....	85
4¼ x 5¼ " "	.....	50
5 x 8 " "	.....	85
3½ x 4½ " "	.....	40

No. 26, White, Primrose, Pearl, Gray or Rose.

Per Package of 25.

Cabinet size, Round Corners, 4¼ x 6½	.....	\$0 52
Boudoir " " 5¼ x 8½	.....	85
4¼ x 5¼ " "	.....	50
5 x 8 " "	.....	85

Boudoir and Thin Panel Cards.

No. 9, White, Primrose, Pearl, Gray, Rose, Plain Cards
Round Corners.

Per Package of 25.

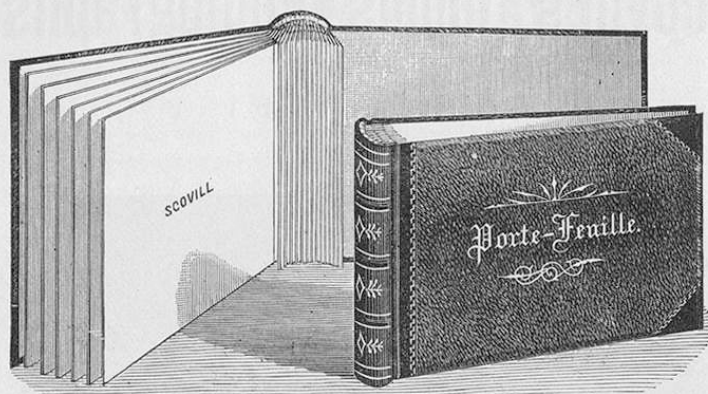
Boudoir (or 5 x 8), 5¼ x 8½	.....	\$0 55
Cabinet Panel, 4 x 8¼	.....	33
4 x 5 or 4¼ x 5¼	.....	30

No. 9, Black, Chocolate or Maroon Face, Gray Backs,
Plain Cards, Round Corners.

Per Package of 25.

Boudoir (or 5 x 8), 5¼ x 8½	.....	\$0 55
Cabinet Panel, 4 x 8¼	.....	45
4 x 5 or 4¼ x 5¼	.....	30

The Scovill Porte-Feuille



Is a device for the preservation, in convenient form, of cards upon which photographic prints have been mounted.

A series of muslin holders, bound between covers with patent flexible backs, constitute a book having great strength of binding combined with a flexibility that allows the book to be opened flat without strain. Prints can thus be put into book form, readily and securely, *after* they have been mounted and also (when desired) burnished. The insertion of the cards is very simple, as will be seen by the directions which follow: To the inner faces of one of the holders apply enough paste to attach the card securely; not so much as will smear the exposed face of the card; then insert the card and rub down on both sides; allow the paste to dry before putting in another card.

Do not put the Paste on the Card.

PRICE LIST OF PORTE-FEUILLE,

Including Twenty-five Sheets of Collins' Best Quality White Cards.

Outside dimensions, 7 x 10 for 5 x 8 Photographs.	\$1 45
" " 10 x 12 for 6½ x 8½ " "	2 00
" " 11 x 14 for 8 x 10 " "	2 40

Price List of Cards per package of 25, not including Porte-Feuille.

COLLINS' BEST WHITE CARDS.

7 x 10	\$0 45	10 x 12	\$0 70
11 x 14	\$0 88		

COLLINS' WHITE MUSLIN-BACK CARDS.

7 x 10	\$0 30	10 x 12	\$0 60
11 x 14	\$0 80		

Collins' White Muslin-Back Cards, in Rolls, 22 inches wide, 14 cts. per yard.

EASTMAN'S NEGATIVE PAPER.

This Negative Paper is adapted for landscape and interior work and for large portraits. For these purposes it is equal to glass in all respects, and has the important advantages of portability, freedom from halation, and economy. Full directions with every package.

CUT SHEETS.

3¼ x 4¼, two doz. in box,	\$0 65	11 x 14, one doz. in box,	\$3 50
4 x 5 " " "	90	14 x 17 " " "	5 50
4¾ x 6½ " " "	1 40	16 x 20 " " "	7 25
5 x 7 " " "	1 55	17 x 20 " " "	7 75
5 x 7½ " " "	1 65	18 x 22 " " "	9 00
5 x 8 " " "	1 75	20 x 24 " " "	12 00
6½ x 8½ " " "	2 45	24 x 36 " " "	20 00
8 x 10 " " "	3 50	30 x 40 " " "	27 50
10 x 12, one doz. in box,	2 60		

ON SPOOLS, TO FIT ROLL HOLDERS.

3¼ in. for two dozen 3¼ x 4¼ exposures	\$0 75
4 in. " " 4 x 5 " "	1 00
4½ in. " " 4½ x 7½ " "	1 80
4¾ in. " " 4¾ x 6½ " "	1 55
5 in. " " 5 x 8 " "	2 00
6½ in. " " 6½ x 8½ " "	2 70
8 in. " " 8 x 10 " "	4 00
10 in. " " 10 x 12 " "	6 00
11 in. " " 11 x 14 " "	8 00
14 in. for one doz. 14 x 17 " "	6 00
16 in. " " 16 x 20 " "	8 00
17 in. " " 17 x 20 " "	8 50
18 in. " " 18 x 22 " "	10 00
20 in. " " 20 x 24 " "	13 25
25 in. " " 25 x 30 " "	20 00

Spools wound with 3 or 4 dozen, if required.

EASTMAN'S AMERICAN FILMS.

Patented May 5, 1885.

The American Film consists of a film of *insoluble* sensitive gelatine emulsion attached to a paper support by means of a layer of *soluble* plain gelatine. The paper serves as a temporary support during the operations of exposure, developing, fixing and washing. After which the film is laid down on a prepared sheet of glass, the paper is removed by warm water which dissolves the soluble gelatine layer and leaves the film on the glass; the paper is then replaced by a varnish of thick gelatine and glycerine, dried, and the whole stripped from the glass ready for printing. Full details of the operations outlined are given in the printed directions enclosed in every package. We recommend these Films for use where a perfectly transparent negative is required, as in enlarging.

PRICES OF EASTMAN'S AMERICAN FILMS.

Size.	CUT SHEETS.	Per Package.
3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	two dozen in package	\$0 70
4 x 5	"	1 00
4 $\frac{3}{4}$ x 6 $\frac{1}{2}$	"	1 50
5 x 7	"	1 75
5 x 7 $\frac{1}{2}$	"	1 90
5 x 8	"	2 00
6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	"	2 80
8 x 10	"	4 00
10 x 12, one dozen	"	3 00
11 x 14	"	4 00

FILMS ON SPOOLS, TO FIT THE EASTMAN-WALKER**ROLL HOLDERS.**

Size.	Price.
3 $\frac{1}{4}$ inch, for 24 exposures, 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	\$0 85
4 " " " 4 x 5	1 10
4 $\frac{1}{2}$ " " " 4 $\frac{1}{2}$ x 7 $\frac{1}{2}$	2 00
4 $\frac{3}{4}$ " " " 4 $\frac{3}{4}$ x 6 $\frac{1}{2}$	1 75
5 " " " 5 x 8	2 20
6 $\frac{1}{2}$ " " " 6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	3 00
8 " " " 8 x 10	4 50
10 " " " 10 x 12	6 75
11 " " " 11 x 14	9 00

Other sizes in proportion.

Pure Para Gum.

SOLUBLE—FOR TRANSFERRING EASTMAN'S FILMS.

Per package... 25 cts.

EASTMAN'S PERMANENT BROMIDE PAPER

MADE IN THREE VARIETIES.

A—Smooth surface, thin, for positive printing, copying drawings, etc., by contact.

B—Smooth surface, heavy, for enlargements and working in ink, oil and water colors.

C—Rough surface, heavy, for enlargements, plain, and for working in crayon, ink, water colors and oil.

All one price.

Our paper is uniformly and heavily coated by machinery with silver bromide, mixed with the least possible quantity of gelatine, to avoid curling, and to preserve the tooth of the paper for working with crayons.

We recommend the rough paper for plain enlargements and contact prints of all kinds on account of the fine artistic effects to be obtained.

Every batch of Bromide Paper is critically tested in our Enlarging Department. Absolute uniformity guaranteed.

Parties who have tried other makes of Bromide Paper and failed to obtain satisfactory results, are solicited to give this paper a trial.

A, B or C.—Cut Sheets.

Size.	Per Doz.	Size.	Per Doz.
3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	\$0 25	11 x 14	\$3 00
4 x 5	40	12 x 15	3 35
4 $\frac{1}{4}$ x 5 $\frac{1}{2}$	50	14 x 17	4 50
4 $\frac{1}{4}$ x 6 $\frac{1}{2}$	55	16 x 20	6 00
4 $\frac{3}{4}$ x 6 $\frac{1}{2}$	60	17 x 20	6 40
5 x 7	65	18 x 22	7 50
5 x 7 $\frac{1}{2}$	70	20 x 24	9 00
5 x 8	75	22 x 27	11 25
6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	1 10	24 x 30	13 50
8 x 10	1 50	25 x 30	14 00
10 x 12	2 25	24 x 36	16 00
10 x 14	2 65	30 x 40	22 50

Other sizes in proportion.

ON SPOOLS.

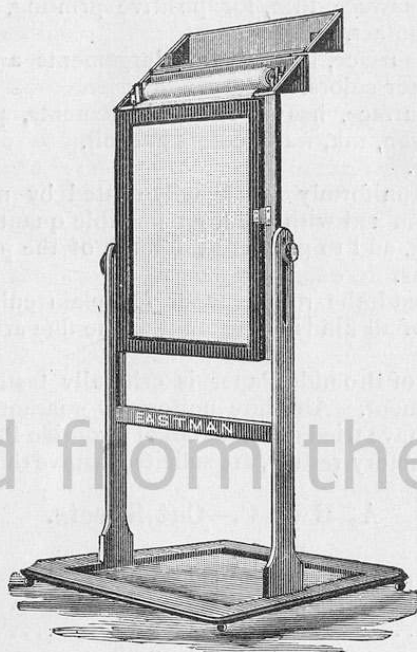
Patented May 5, 1885.

Per Yard.	Per Yard.
10 inches wide.....\$0 56	20 inches wide....\$1 12
11 " " " " 62	22 " " " " 1 24
12 " " " " 68	24 " " " " 1 35
14 " " " " 79	25 " " " " 1 40
16 " " " " 90	30 " " " " 1 68
18 " " " " 1 00	

Not less than 5 yards on a spool.

EASTMAN'S ENLARGING EASELS.

WITH SPOOL HOLDER.

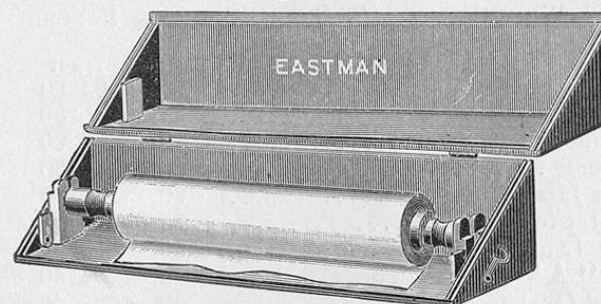


Patented May 5, 1885. Other Patents applied for.

					Price Complete.
No. 1—	For	Spools	up to and including	11 inches.....	\$7 50
" 2	"	"	"	16 ".....	10 00
" 3	"	"	"	22 ".....	12 50
" 4	"	"	"	25 ".....	15 00

The above apparatus is for use with either natural or artificial light enlarging cameras or with the magic lantern and consists of an easel made to stand upon the floor and a Spool Holder fixture, which holds the roll of Permanent Bromide Paper. For use the paper is drawn down like a curtain and fastened on the face of the easel. After exposure, each length is cut off and a fresh piece pulled down. When not in use the Spool of paper is enclosed light-tight in the holder. Each easel is accompanied by one spool holder. If it is desired to use several widths of paper on the easel, extra spool holders (which are interchangeable) are employed.

Extra Spool Holders.



One Spool Holder accompanies each easel; where it is desired to make several sizes of enlargements, extra holders may be employed for each width of paper, or for several widths, as desired. These holders are all made interchangeable. Small sizes will fit on the large easels. Each holder is provided with a brake that bears on the back of the paper and prevents unwinding.

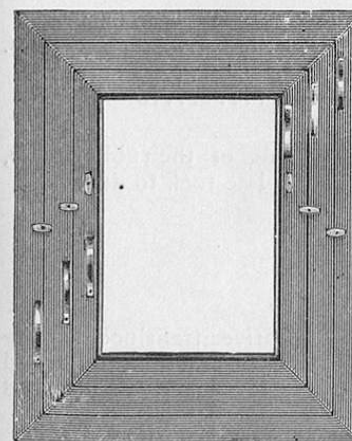
The spools of Permanent Bromide Paper for these holders are put up for the market in light-tight strawboard boxes.

Extra Spool Holders are a great convenience, as they obviate the necessity of unwrapping and re-wrapping paper.

PRICES OF EXTRA SPOOL HOLDERS.

					Price
No. 1	will	take	spools	for paper up to 11 inches wide.....	\$2 00
" 2	"	"	"	16 " ".....	2 50
" 3	"	"	"	22 " ".....	3 00
" 4	"	"	"	25 " ".....	4 00

Kits for Enlarging Easels.



Outside.	Inside.	Price.
25x30.....	22x27.....	\$1 50
22x27.....	20x24.....	1 40
20x24.....	18x22.....	1 30
18x22.....	16x20.....	1 20
16x20.....	14x17.....	1 00
14x17.....	11x14.....	80
11x14.....	10x12.....	66
10x12.....	8x10.....	60

These Kits are made to nest one into the other, and they are provided with buttons for fastening in place; also spring clips for holding Eastman's Film Carriers for cut sheets.

OUTFIT FOR COPYING DRAWINGS.

WITH EASTMAN'S "A" BROMIDE PAPER.

	12 x 15 (Patent Office.)	14 x 17	20 x 24
1 Deep Printing Frame.....	\$3 30	\$3 60	\$6 40
1 Glass for Printing Frame.....	25	50	1 00
2 Japanned Trays.....	1 20	2 00	5 00
1 Graduate.....	50	50	50
3 Quart Jars for Solutions.....	60	60	60
1 Pint Jar for Solutions.....	15	15	15
1 Ruby Lantern.....	2 00	2 00	2 00
1 Doz. "A" Bromide Paper.....	2 65	4 50	9 00
1 Pound Oxalate Potash.....	40	40	40
1 " Proto Sulphate Iron.....	10	10	10
1 " Hyposulphite Soda.....	10	10	10
1 " Alum.....	10	10	10
4 Ounces Sulphuric Acid.....	35	35	35
	<hr/> \$11 70	<hr/> \$14 90	<hr/> \$25 70
Price, boxed.....	11 00	14 00	23 50

The above list comprises everything necessary to make copies of drawings with our Permanent Bromide Paper.

An ordinary Patent Office drawing on thick Bristol board, may be copied in five seconds in ordinary light. No previous knowledge of Photography required. Full instructions with each outfit.

HARD RUBBER PLATES.

FOR DRYING PAPER NEGATIVES.

4 x 5.....	10 cents each.	8 x 10.....	40 cents each.
5 x 7.....	18 "	10 x 12.....	60 "
5 x 8.....	20 "	11 x 14.....	75 "
6½ x 8½.....	30 "		

One Negative can be laid upon each side of the rubber plate, which can then be placed in an ordinary plate rack to dry.

TRANSLUCINE.

A new material for rendering paper negatives translucent, without the aid of heat. Put up in corked bottles. Inodorous, and has simply to be rubbed onto the back of the negative and wiped off with a cloth. Price, 35 cents per bottle.

**OUTFIT FOR DEVELOPING EASTMAN'S
NEGATIVE PAPER**AND EASTMAN'S FILMS, AND MAKING POSITIVES ON EASTMAN'S
PERMANENT BROMIDE PAPER.

Including all apparatus and material necessary to make finished photographs, except the Camera, Roll Holder, Lens, Tripod, Focusing Cloth and supply of Negative and Bromide Paper.

	4 x 5	5 x 8	6½ x 8½	8 x 10
1 Ruby Lamp.....	\$2 00	\$2 00	\$2 00	\$2 00
2 Glossy Rubber trays.....	54	1 20	1 60	2 60
1 Agate Pan.....	1 00	1 25	1 25	1 60
1 Graduate.....	35	35	35	50
1 Minum Glass.....	25	25	25	25
1 Bottle Developer.....	50	50	50	50
1 Oz. Bromide Potassium..	25	25	25	25
1 Lb. Hyposulphite Soda...	10	10	10	10
1 " Alum.....	10	10	10	10
1 " Proto Sulph. Iron....	10	10	10	10
1 " Oxalate Potash.....	40	40	40	40
1 Package French Chalk....	10	10	10	10
2 Oz. Sulphuric Acid.....	25	25	25	25
1 Bottle Rubber for Films..	25	25	25	25
1 " Gel. Varnish " ..	25	25	25	25
1 Sheet Hard Rubber.....	10	20	30	40
1 Squeegee.....	40	40	50	50
1 Bottle Translucine.....	35	35	35	35
1 Flat Printing Frame.....	55	70	70	85
1 Paste Brush.....	5	5	5	5
1 Pot Paste.....	25	25	25	25
1 Dozen Mounts.....	25	30	40	50
	<hr/> \$8 29	<hr/> \$9 50	<hr/> \$10 30	<hr/> \$12 05

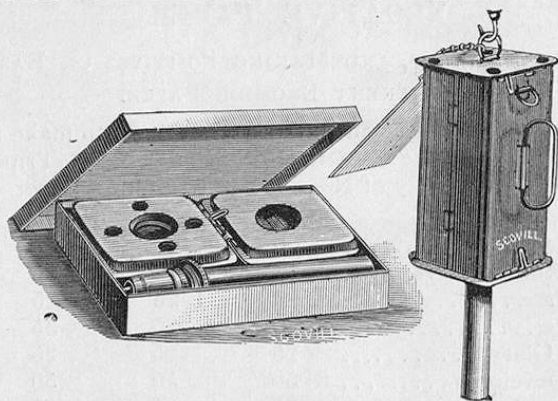
Price complete, boxed.....\$7 50 \$8 70 \$9 30 \$11 00

SQUEEGES.

VELVET RUBBER.

6 inch.....	40 cents.	8 inch.....	50 cents.
12 inch.....	75 cents.		

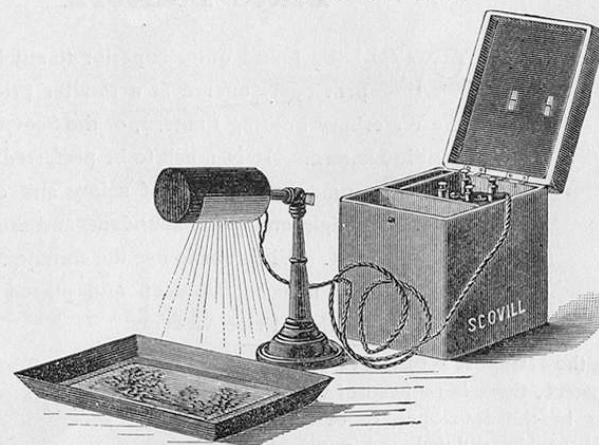
Squeegees are used to scrape off the water from the paper negative when laid on the rubber plates to dry.

WATERBURY K. D. LANTERN.**Price, \$2.00.****Price, \$2.00.****NO SMOKE!****NO OIL!****NO SMELL!**

The best Lantern to carry about, and the finest light for the dark room. By the automatic working of a spring the candle is held up in place until entirely consumed. Quickly lighted and easily extinguished. Lightness, compactness, and cleanliness commend the Lantern to the amateur.

SCOVILL'S NON-ACTINIC DARK-ROOM LANTERN.**Price, \$2.00 Each. For Candle or Coal Oil (Kerosene).**

THE development of developers for dry-plate work has been very marked during the past few months. To keep pace and, in fact, to lead in the development of all that pertains to dry-plate work has been the aim of the Scovill Mfg. Co., and they now announce a new lantern for dark-room illumination, to be styled "Scovill's Non-actinic Dark-Room Lantern."—PHOTO. TIMES, December, 1883.

The Scovill Electric Dark Room Lamp.
WITH NON-ACTINIC SHADE.


Good features
never before
combined for
the dark room.

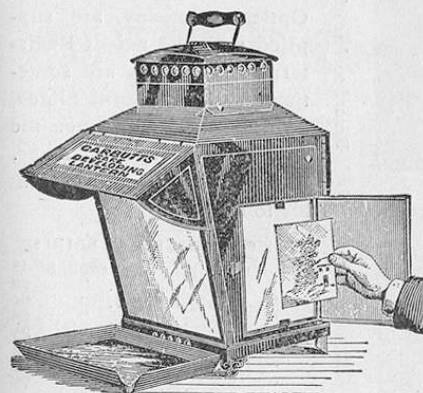
Light without heat.
Light without danger of fire.
Light without smoke or smell.

Pure air
and ventilation
for
the dark room.

Three candle-power Lamp.....\$7.00

Six " " " 8.50

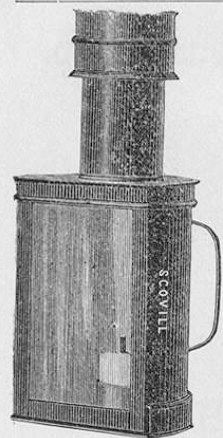
With Switch, add \$1.00 to price of either Lamp.

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 inches 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.

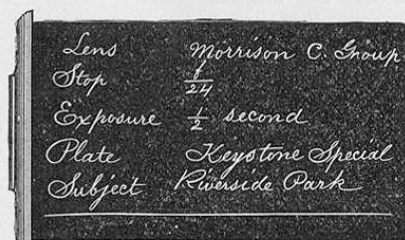
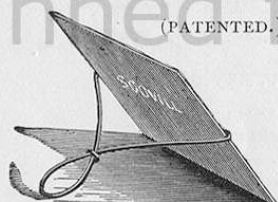


The W. I. A. Improved Dry Plate Lantern

WILL be found quite superior to any lantern previously offered at a smaller price than the Waterbury Folding Lantern, or the Scovill Non-actinic Lantern. It is much to be preferred above an oil-consumer, on account of safety and cleanliness. The light emitted is abundant, and the ventilation perfect. When not in use the chimney of this petite lantern may be taken off and placed inside over the candle. Price, 75 cents.

By using the **Russell Negative Clasp and Drying Support**, there is no need of wetting or staining the fingers in the developer, or of touching a plate until after it has been developed, varnished and dried. Adaptable for all sizes, from $3\frac{1}{4} \times 4\frac{1}{4}$ to 8×10 inclusive. Price, 15c. each.

(PATENTED.)



Record surface of slide.
Other side of slide.

Cameras of 8×10 and smaller sizes, with Dry-Plate Holders, now made by the American Optical Company, are supplied with the patent Registering, or as they are sometimes called, Record Slides, on which may be written the data concerning exposures. These slides are indispensable to the view taker.

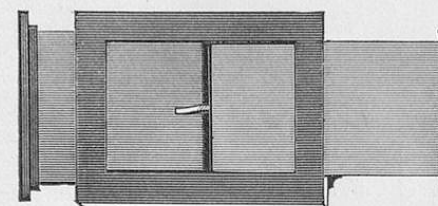
PRICE REGISTERING SLIDES.

Size for $3\frac{1}{4} \times 4\frac{1}{4}$	each, \$0 13
" 4 x5	" 20
" $4\frac{1}{2} \times 5\frac{1}{2}$	" 24
" $4\frac{1}{2} \times 6\frac{1}{2}$	" 28
" 5 x7	" 35
" 5 x8	" 40
" $6\frac{1}{2} \times 8\frac{1}{2}$	" 55
" 8 x10	" 75

Registering Slides not made above 8×10 size.

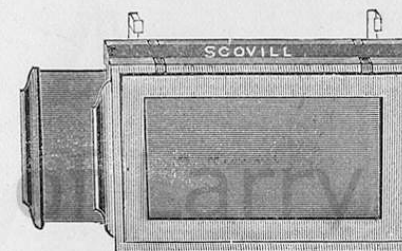
SCOVILL'S N. S. DRY PLATE HOLDER.

(PATENTED.)



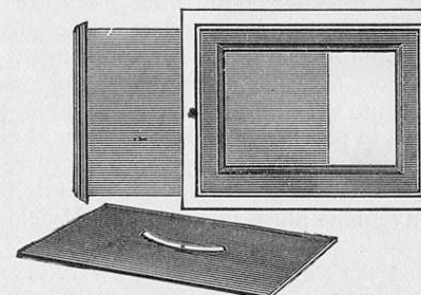
Scovill's Patent Double Dry Plate Holders are reversible, and made to receive kits.

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. 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.

THE FLAMMANG SINGLE DRY PLATE HOLDER.



(Patented.)

ARRANGED TO TAKE KITS OF LESSER SIZE.

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.

Size.	Scovill's Patent Double Dry Plate Holder. Kits extra.	Daisy Double Dry Plate Holder. Kits extra.	Flammang's Single Dry Plate Holder. With Kits.
3½x4½.....	\$1 50	\$1 75	\$1 50
4x5.....	1 75	2 00	1 75
4½x5½.....	1 85	2 10	1 85
4½x6½.....	1 90	2 25	1 90
5x7.....	2 10	2 35	2 10
5x8.....	2 20	2 50	2 20
6½x8½.....	3 80	4 20	3 80
8x10.....	5 00	6 00	5 00

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.

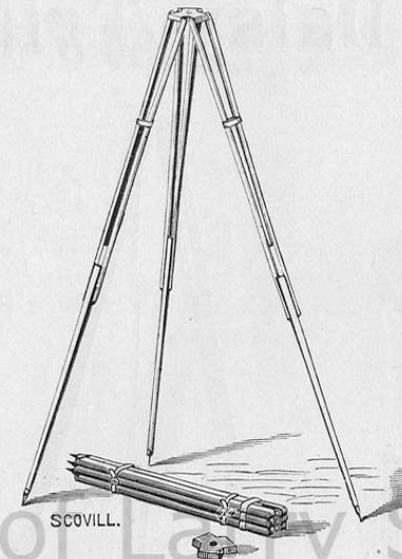
No. 1, for 1-4 and 4x5 Cameras.....	each, \$3 00
" 2, " 5x8 Cameras.....	" 3 25
" 3, " 6½x8½ Cameras.....	" 5 00

Larger sizes made to order.



The Scovill Adjustable Tripod.

(FEATHER WEIGHT.)

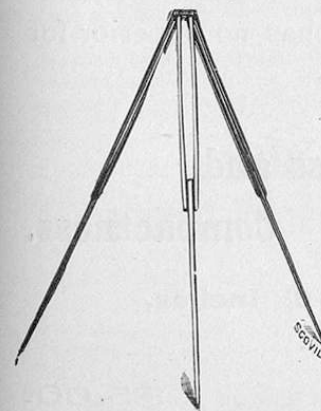


Nothing more compact, certainly nothing as graceful in appearance and light in weight as the new Tripod for out-door Photography, just produced by the American Optical Company, has yet made its appearance. Because so readily adjusted to the utmost irregularity of the earth's surface, it was decided to call it the "Adjustable Tripod." Lady amateurs prefer it to any other pattern on account of its lightness and beauty. The top is covered with billiard-cloth to prevent marring the fine polish on our cameras, and the clamping screws are not detachable.

No. 1, Price.....	each, \$3.50
" 2, "	" 5.00

LATEST!!!

The Scovill Adjustable Jointed Tripod, to fold and pack in a 22-inch Valise..... \$4.00
Do. with Canvas Bag and Handle.. 4.75



THE IMPROVED TAYLOR TRIPOD.

The illustration here presented makes an extended description unnecessary. Suffice it to say that this tripod is very firm when set up, and folds up compactly by simply pressing together the two upper joints of each leg, thus unsetting them from the pins on the brass top and then doubling them over on to the third joint. This movement is naturally reversed when placing the tripod in position to support the camera.

Price, with metal disc and non-detachable screw.....\$2.25 each.
Adapted for cameras from 1-4 to 8x10 size.

The Daisy Tripod.



An inspection of one of these Tripods will convince the most skeptical that it has no superior for

Ease of Adjustment,

Lightness and

Compactness.

Length when Folded, 16½ Inches.

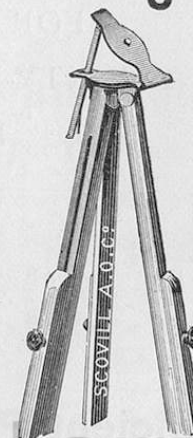
Weight, 2 lbs.

PRICE, - - - - \$5.00.

AMERICAN OPTICAL CO.'S Camera Reversing Attachments

No. 0, for 4 x 5
Camera, \$3.

No. 1, for 5 x 8
Camera, \$3.50.



No. 2, for 6½ x 8½

Camera,
\$4.00.

These Attachments are Immovably Fixed to the Top of Extension 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.

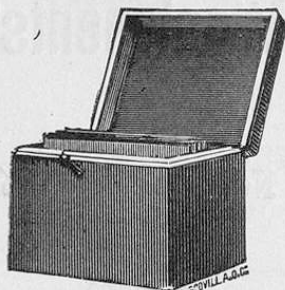
"When the new reversing attachment devised at the American Optical Co.'s factory is seen, no manual of instruction need be consulted to ascertain how it is applied or worked. This is obvious. A cut does not convey an idea of its merit thus readily.

"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."

THE HALLENBECK Sensitized Paper and Dry Plate Safety Box.

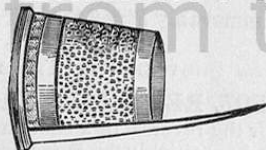
Size.	Price, Ordinary.	Price, Cedar lined.
4 x 5	\$1 00	\$1 50
5 x 8	1 15	1 65
6½ x 8½	1 25	1 75
8 x 10	1 50	2 00

These boxes are provided with lock and key, and with weighted inside lid to keep paper flat.

NEGATIVE BOXES.

FOR HOLDING
TWENTY-FOUR PLATES
EACH.

	Regular, with Hook.	Light Tight, with Lock and Key.		Regular, with Hook.	Light Tight, with Lock and Key.
3½ x 4½.....	\$0 70	\$1 90	4 x 8.....	\$0 85	\$2 05
4 x 5.....	75	1 95	5 x 7.....	90	2 10
4½ x 5½.....	75	1 95	5 x 8.....	95	2 15
4½ x 6½.....	75	2 00	6½ x 8½.....	1 05	2 30
4 x 7.....	80	2 00			

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

EITHER

Ferrous Oxalate Developer



Stock Solutions.

Or Carbonate of Soda used

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.

S. P. C. CARBONATE SODA DEVELOPER,

Price per Package, 50 Cents.

S. P. C. Pyro and Potash Developer,

Price per Package, 60 Cents.

Do not Stain the Fingers or Leave the Plate Yellow.

WORK EQUALLY WELL WITH ALL BRANDS
OF PLATES.

Giving perfect detail, density and brilliancy in the negative.

Full directions enclosed in each package.

A Great Convenience in Developing Dry Plates.



PELLETONE

PYROGALLIC

ACID TABLETS

Put up in bottles, each containing 100
two-grain (exactly 2 grains) tablets of

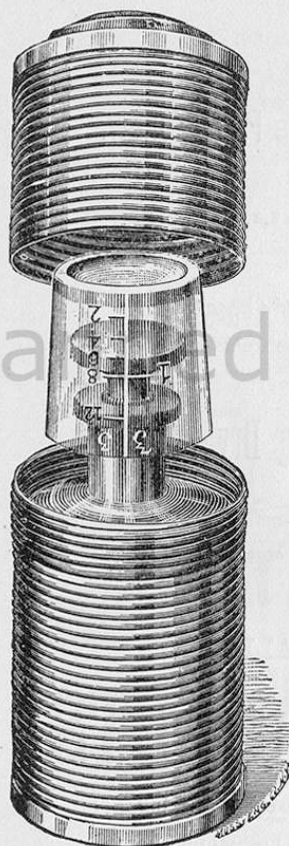
SCHERING'S
Unrivalled Pyrogalllic Acid.

Price per Bottle.....50 Cents.

DEVELOPERS AND CHEMICALS IN SOLUTION

TRANSPORTED SAFELY IN

CORRUGATED PROTECTING CASES,

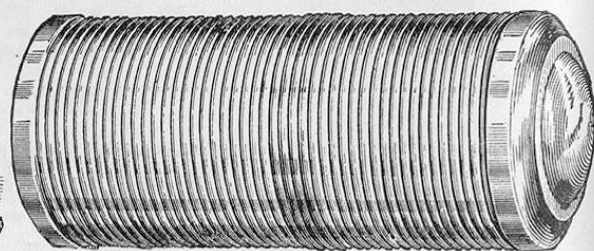


Supplied with Cut Glass Bottles, and Graduated
Tumbler to Measure Liquids.

CORRUGATED PROTECTING CASES are a great convenience to the landscape Photographer and amateur picture-taker when away from home. Though made of thin metal, the corrugation makes them so strong as to resist crushing. Being nickled and finely finished, the external appearance of these Cases is

DECIDEDLY TASTEFUL,

indeed, one would be more inclined to place them in a satchel than in a packing case. Whether carried about in a horizontal or vertical position, the locking ring affords perfect protection for the liquids contained in the bottle.



PRICE LIST.

No. 1. Diameter, 1½ in. Length, 3½ in. Weight, 4½ oz. Furnished with 1 ounce bottle. \$.50

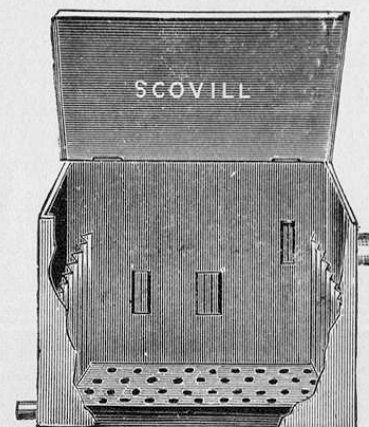
No. 3 A Diameter, 2 in. Length, 5½ in. Weight, 7½ oz. Furnished with 4 oz. bottle, with tumbler, making ½ pint flask.85

No. 4 A Diameter, 2½ in. Length, 7 in. Weight, 14 oz. Furnished with 8 oz. bottle, with tumbler, making ½ pint flask. 1.10

No. 13 A Diameter, 2½ in. Length, 6 in. Weight, 17 oz. Furnished with 8 oz. bottle, with tumbler, making ½ pint flask. 1.20

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. We have also arranged the Box so that the plates may be taken out without putting the hands into the water.

The 8 x 10 Adaptable Box has the desirable feature of being arranged so that plates of 6½ x 8½, 5 x 8 and 4 x 5 size can be washed in it in addition to the 8 x 10 size.

SCOVILL ADAPTABLE NEGATIVE WASHING BOXES.

		Price each.
5 x 8,	Adapted for 4 x 5 and 3¼ x 4¼ sizes.	\$2 75
6½ x 8½,	Adapted for 5 x 8, 5 x 7, 4 x 5 and 3¼ x 4¼ sizes.	3 00
8 x 10,	Adapted as above stated.	3 50
10 x 12,	Adapted for 8 x 10, 6½ x 8½, 5 x 8, 5 x 7, 4 x 5 and 3¼ x 4¼ sizes.	4 00
11 x 14,	Adapted for 8 x 10, 6½ x 8½, 5 x 8, 5 x 7, 4 x 5 and 3¼ x 4¼ sizes.	4 50

SCOVILL'S WASHING BOXES.

PRICE LIST.

No.	Size	Plates	Price
No. 1,	for 3¼ x 4¼	Plates.	\$1 60
" 2,	4 x 5	"	1 75
" 3,	4¼ x 5½	"	1 90
" 4,	4½ x 6½	"	2 00
" 5,	5 x 7	"	2 10
" 6,	5 x 8	"	2 15
" 7,	6½ x 8½	"	2 25
" 8,	8 x 10	"	2 50
" 9,	11 x 14	"	3 75

Larger sizes made to order.

Decorated Negative Washing Boxes, 50c. additional for each size.

TRANSPARENCIES.**DRAWING-ROOM TRANSPARENCY FRAMES.**

These Frames can be described, or characterized by one phrase, "THE REFINEMENT OF TASTE."

SIZE.	EACH.	SIZE.	EACH.
4 x 5 inch.....	\$0 28	6½ x 8½ inch.....	\$0 38
4½ x 6½ ".....	30	6½ x 9 ".....	48
5 x 7 ".....	30	8 x 10 ".....	48
5 x 8 ".....	34	10 x 12 ".....	75
6½ x 7½ ".....	38	11 x 14 ".....	90

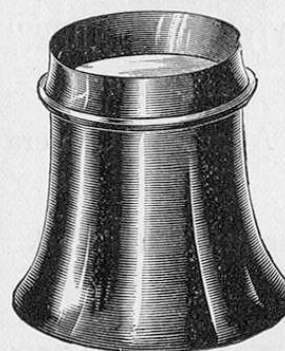
**SCOVILL'S ETCHED GROUND GLASS**

(WITH HANDSOME DESIGNS ON BORDER), FOR TRANSPARENCIES.

6½ x 7½ for 4 x 5 Picture.....	Per Light, 27½ cts.
6½ x 9 " 4½ x 6½, 5x7, and 5x8 Picture.....	42½ "
8 x 10 " 6½ x 8½ Picture.....	50 "
10 x 12 " 8 x 10 ".....	62½ "

Plain Ground Glass for Transparencies.

Per Light.	Per Light.	Per Light.
4 x 5.....\$0.12	5 x 8.....\$0.18	8x10.....\$0.35
4½ x 5½..... 15	6½ x 8½..... 28	10x12..... 50
4½ x 6½..... 16		

WATERBURY FOCUSING GLASSES.

No. 1, Waterbury Focusing Glass, Horn.....	each, \$0 25
" 2, " " Rubber.....	" 40
" 3, " " Cork.....	" 40
Darlot Focusing Glass.....	" 3 00

C. C. H. FOCUSING GLASS.

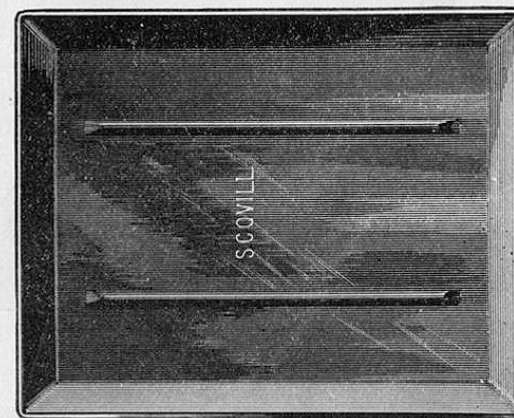
This is a desirable little instrument for aiding the operator in getting a sharp focus.

C. C. H. FOCUSING GLASS.....\$4 00

Scovill's 3-legged Focusing Glass, each..... 75



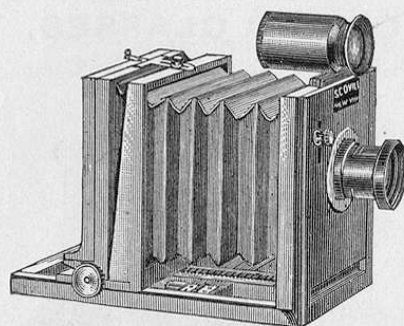
Save your eyes by using one of these instruments.

SCOVILL'S GLOSSY RUBBER TRAYS.

■ ■ After a protracted and costly series of experiments, we are now able to offer to the trade, a superior article in texture, durability and polish. The utility of the parallel ridgelets must at once be apparent to the photographic practitioner.

PRICE LIST.

No.	Size.	Price, each.
No. 200,	4½ x 5½ for 1-4, 4-5, and 4½ x 5½ plates.....	\$0 27
" 300,	5½ x 8½ for 5 x 7 and 5 x 8 ".....	60
" 400,	7 x 9 for 6½ x 8½ ".....	80
" 500,	8½ x 10½ for 7 x 9 and 8 x 10 ".....	1 30



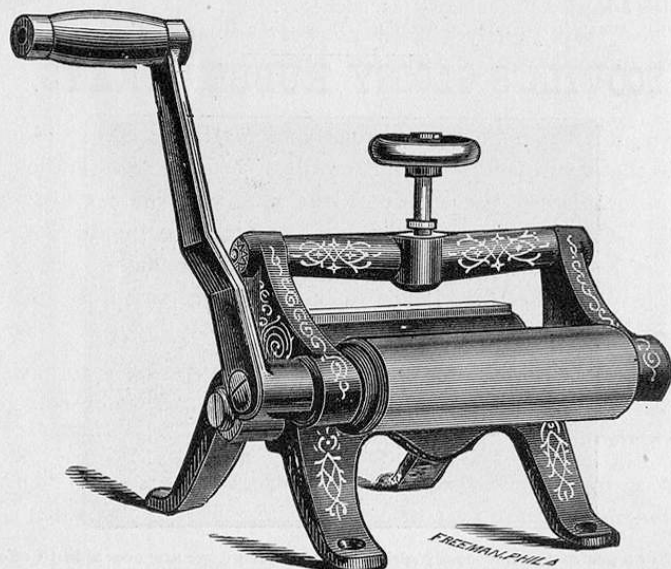
THE
"WATERBURY FINDER."
Each \$3.00.
To Attach to Camera
FOR
Instantaneous Work.

—S. P. C.—
JAPANNED DEVELOPING TRAYS
(Made of Selected Metal)

—FOR—
DRY PLATE PHOTOGRAPHY.

Size $4\frac{1}{2}$ x $5\frac{1}{2}$ inches.....	price each, 20 cents.
" $5\frac{1}{2}$ x $8\frac{1}{2}$ "	" 25 "
" 7 x 9 "	" 30 "
" $8\frac{1}{2}$ x $10\frac{1}{2}$ "	" 40 "

BURNISHERS.

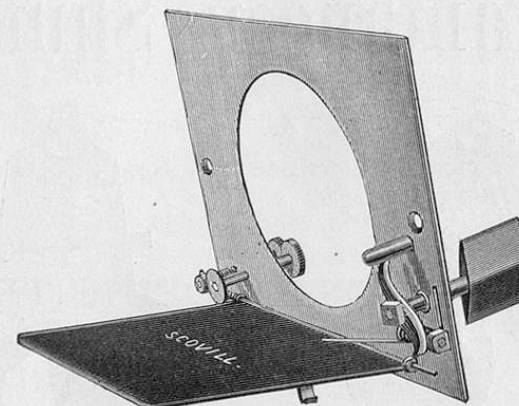


—PRICES—

6 inch roll.....\$13 00 | 10 inch roll.....\$20 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.

THE KELLOGG INSTANTANEOUS SHUTTER.



DESIGNED ESPECIALLY FOR INSTANTANEOUS WORK
UPON BOTH LAND AND WATER.

Is always in position ready for a "shot." Cannot receive any accidental injury, as it is situated inside the Camera and worked from the outside.

To adjust the shutter it is simply necessary to remove the nuts from the inside ends of the spindles; remove the spindles and fasten the plate to the inside of the camera front by two small screws, so that the circular hole in the plate coincides with the hole in the front board for the lens; three holes having previously been made in the front board so that the three spindles can be replaced, and can turn easily in their bearings.

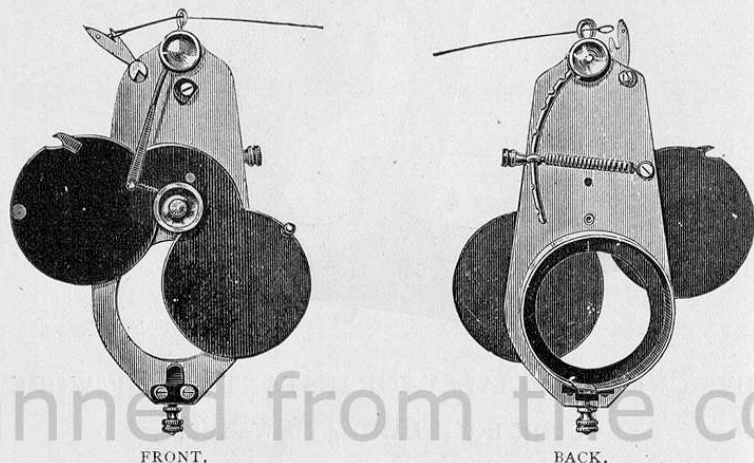
The effect of hinging the door at its lower side is to have the ground receive a longer exposure than the sky, which is a great advantage.

With the thumb-screw which controls the tension of the closing mechanism, the time of exposure can be varied at will.

To focus, push in button under adjusting screw, which opens the shutter and holds it open.

Price, \$5.00.

THE "ECLIPSE" Instantaneous Shutter.



SIZES AND PRICES.

No. 0, for hoods up to 1 3/8 inches diameter.....	\$7 00
" 1, " " 1 7/8 " "	7 00
" 2, " " 2 3/8 " "	7 50
" 3, " " 2 7/8 " "	8 00
" 4, " " 3 3/8 " "	8 75

Pneumatic Release, \$1.00 extra.

Please send with order a strip of paper, whose ends will just meet around hood of lens.

These Shutters are virtually made to order, as each purchaser gets one accurately fitted to his lens, and of a size (neither too large nor too small) suited to work to the best advantage.

A pretty clear idea of the construction and operation of the "ECLIPSE" Shutter can be had by a study of the two cuts (back and front views), herewith shown.

Its simplicity and compactness are evident. Its weight is less than eight ounces for a No. 2 Shutter. It is perfectly light-tight, and is free from jar. Its speed, from one second's exposure to any rapidity, is *regulated with precision* by simply moving the spring on the back of the Shutter, from one notch to another on the curved arm.

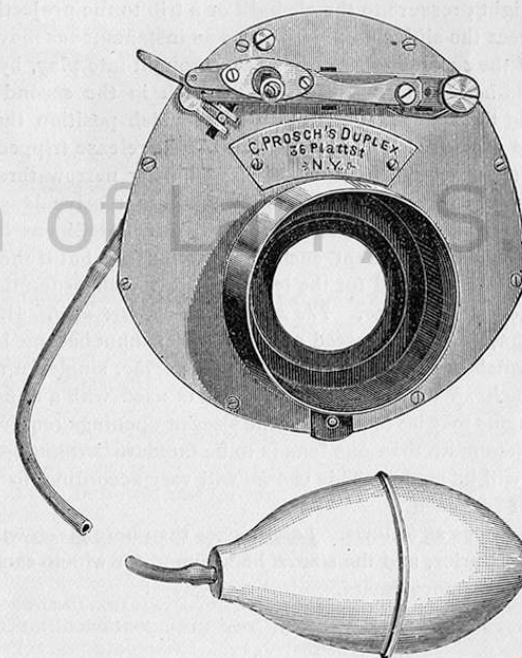
One of its most excellent features, and which is *unequaled* for simplicity and efficiency, is the *hair-trigger release*. This release can be operated by hand or by a cord, which can be led to any point, and even if jerked violently, it will not jar the instrument in the slightest degree. The revolving fly attains motion before it is entirely freed from the release, and so does not start with a jerk as with *all other* releases.

The popularity of the "PROSCH" Shutter of last season is well-known. The "ECLIPSE" Shutter is the latest production of the inventor of that Shutter.

"DUPLEX" Photographic Shutter.

For Timed or Instantaneous Work.

PERFECT IN BOTH.



WITH THIS SHUTTER exposures can be made of any desired duration. It is equal to any requirement for the most rapid work, and as a time Shutter, exposures can be made as quick as two pulsations can be given to air bulb, (about one-tenth of a second) or of minutes duration.

"Duplex" Shutters work perfectly with even the very largest lenses, up to their full capacity; and several lenses can be used with the same Shutter. The Shutter gives a full opening; but yet by the peculiar opening in the exposure slides, any part of the picture can be favored, with more or less illumination, by turning the Shutter, sometimes even inverting it.

The illustration gives a front view of the Shutter, one-half size of No. 2, which is suitable for an 8 x 10 lens, or even larger, as it has an opening at the diaphragm of $1\frac{1}{2}$ inches.

Enclosed in metal casing, are two pivoted slides which moves in unison, in opposite directions, and makes the exposure in one continuous movement, without the slightest jar, even when worked at its greatest rapidity. The motive spring is on the back of Shutter, and is of coiled wire; a perfectly reliable spring. Its tension is regulated by moving it along a series of notches. The exposure slides are moved by a stud on the lever shown on front, which passes through the Shutter, and a slot in each slide, and engages with the spring on the back. On the end of the lever are two notches hidden by the secondary lever. When the lever is fully depressed, the release catches in the upper notch and locks the slides closed. A slight pressure to the air bulb or a trip to the projecting end of the release, frees the slides, and they make an instantaneous movement, or exposure. If the secondary lever has been brought into play, by a turn or two to a milled-head nut, the release will catch in the second or lower notch and hold the slides at a full opening, in which position they remain until a second pressure is given to the bulb, or the release tripped by hand.

The Shutters are made in standard sizes, having narrow threaded collars on each side, to which can be adapted tubes to receive lenses, which are to be transferred from regular lens tube. Any intelligent instrument maker or machinist can adapt such tubes to lenses; but if the complete lens, or a tube already fitted for the lenses, is sent with order, the Shutter will be returned all complete. *The original tube is not used.* Diaphragms of a new design, having a recessed surface which cannot become brightened in use, are furnished in sets of six at a cost of 75c. single, or additional ones at 15c. each. When more than one lens is used with a Shutter, additional diaphragms may be required. The sizes of openings required should be given. When more than one lens is to be fitted to a Shutter, an additional charge will be made. This charge will vary according to sizes, but will be about \$2.00 each.

Sizes and prices as follows. Larger sizes than here given will be furnished at special price, and the size of lens named for which each Shutter is suitable, is only approximate.

SHUTTER.	OPENING.	PRICE.
No. 0.....	$\frac{7}{8}$ inch.....	\$12 00
" 1.....	$1\frac{1}{8}$ ".....	13 00
" 2.....	$1\frac{3}{8}$ ".....	14 00
" 3.....	$1\frac{5}{8}$ ".....	16 00
" 4.....	$2\frac{3}{8}$ ".....	20 00

Your order is solicited, with confidence that, on trial it, will give the very best satisfaction.

GENERAL PRICE LIST.

Chemicals subject to Fluctuation in Prices.

Glass Forms, Stereo....each, \$0 40	Glass Forms, 4 x 5....each, \$0 50
Card Glass Forms....." 25	" 5 x 8...." 1 00
Cabinet "....." 50	" 6½ x 8½...." 1 25
Robinson's Straight Trimmers.....	" 50
" Revolving " with guide.....	" 1 00
Scovill Focusing Cloths.....	" 50
Printing Frames, 3½ x 4½.....	" 55
" 4 x 5.....	" 55
" 4½ x 5½.....	" 55
" 4½ x 6½.....	" 60
" 5 x 7 or 5 x 8.....	" 70
" 6½ x 8½.....	" 70
Neutral Oxalate Potash.....	per lb., 40
Protosulphate Iron.....	" 10
Sulphate Iron and Ammonia.....	" 18
Oxalic Acid.....	per oz., 10
Citric Acid.....	" 15
Bromide Ammonium.....	" 12
" Potassium.....	" 10
Iodide.....	" 30
Nitrate Uranium.....	" 70
Red Prussiate Potash.....	" 10
Litmus Paper.....	per sheet or book, 5
".....	per box, 50
Carbonate Soda (Sal Soda).....	per lb., 10
Pyrogalllic Acid.....	per oz., 40
Sulphuric Acid, in bottle and tin can.....	" 20
Bichloride Mercury.....	" 15
Chloride Ammonium.....	" 10
Liquid Ammonia, conc.....	per lb., 32
Hyposulphite Soda.....	" 10
Alum, Powdered.....	" 20
Chrome Alum (commercial) in box.....	" 20
India Ink (for stopping out).....	per stick, 25
Gihon's Opaque.....	per cake, 50
French Azotate (for toning).....	per bottle, 25
Chloride Gold and Sodium.....	per bottle of 15 grains, 35
".....	30 " 55
S. P. C. Negative Varnish.....	per bottle, 50
Parlor Paste (for mounting pictures).....	½ pint jar, 20
".....	pint bottle, 30
".....	quart jars, 65
Acetate Soda.....	¼ lb. bottles, 15
Ground Glass Substitute.....	per bottle, 50
Dropping Tubes.....	each, 10
Canvas Case for Tripods, Nos. 1 and 2.....	" 1 50
" Nos. 3 and 4.....	" 2 00
W. I. A. Dry Plate Lanterns.....	each, 60

REVISED AND REDUCED PRICE LIST

—OF—

Carbutt's Keystone Dry Plates.

December 1st, 1885.

CARBUTT'S EXTRA SPECIAL SENSITOMETER, No. 24 to 25, and	3½x4	3½x4½	4x5	4½x5½	4½x6½	4½x6½	5x7	5½x7	5x8
	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.
Special Portrait and B Landscape Plates.	\$0 50 Thin Crystal 0 60		\$0 68	\$0 80	\$0 95	\$1 00	\$1 15	\$1 30	\$1 30
Transparency Plates, Gelatino-Chloride or Gelatino-Albumen.	Thin Crystal \$0 65	55	80	90	1 08	1 20	1 40	1 50	1 50
Stripping Plates, Special or B. Emulsion.			\$0 90	1 02	1 26	1 33	1 56	1 75	1 75
Opal Plates, Gelatino-Albumen.	½ Doz \$0 55	½ Doz 80	½ Doz 90	½ Doz 1 08			½ Doz 1 40		½ Doz 1 50

CARBUTT'S Extra Special Sensitometer, No. 24 to 25, and	6½x8½	8x10	10x12	11x14	14x17	16x20	17x20	18x22	20x24
	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.	Doz.
Special Portrait and B Landscape Plates.	\$1 70	\$2 50	\$4 00	\$5 25	\$9 45	\$13 00	\$13 70	\$16 20	\$19 30
Transparency Plates, Gelatino-Chloride or Gelatino-Albumen.	2 07	3 00	4 50	5 85	10 80	14 40	15 30	18 00	21 50
Stripping Plates, Special or B Emulsion.	2 25	3 38	5 40	7 00	12 60	17 37	18 25	21 50	25 75
Opal Plates, Gelatino-Albumen.	½ Doz 2 07	½ Doz 3 00	½ Doz 4 50	½ Doz 5 85					

PYRO AND POTASH DEVELOPER,

For Carbutt's Keystone Dry Plates.

No. 1.
 Water.....10 oz.
 Citric acid.....60 grs.
 Crystallized sulphite soda.....2 oz.
 Pyrogalllic acid.....1 oz.
 Water to make up to 16 oz.

No. 2.
 Water.....10 oz.
 Crystallized sulphite soda.....2 oz.
 Carbonate of potash, C. P.....4 oz.
 Water to make up to 16 oz.

N. B.—During Summer 1 dram bromide potash or ammonia may be added to No. 1.

DEVELOPER.—For Portraits on "Specials," add to 2½ ounces of water, distilled, melted ice, or well water, but *not* rain water, two drams each No. 1 and 2; less of No. 2 is required during warm weather. If more density is desired add more of No. 1, if more detail and softness add more of No. 2, bromide to be added to restrain and give density if required. Keep solutions cool, 60 to 70 degs. is a good temperature.

For Landscapes and Interiors on "Specials," where the exposure may be uncertain, lay the exposed plate in the Pyro Solution for a minute or two, then into the developing glass put half the quantity of No. 2 as has been taken of No. 1, and pour the Pyro Solution into it, and back onto the plate, by proceeding in this manner, adding more of No. 2 to bring out the image, or a few drops of a 10 per cent. solution of bromide to restrain as may be required, much better results may be looked for than if a full quantity of No. 1 and No. 2 were mixed at once. FOR INSTANTANEOUS VIEWS or very dark interiors, we recommend the following procedure: To 4 ounces water add 1 dram No. 2, soak plate in this while preparing the following: water, 3 ounces, of Nos. 1 and 2 each 3 drams, 5 drops Bromide Solution, pour off the dilute alkali, and flow this strong developer over the plate; be careful to expose the plate as little as possible to the light used to develop by, no matter how safe it may be considered for ordinary development. Do not hurry by adding more No. 2; cover up the pan and give the developer time to act, when more of No. 1 or No. 2 may be added as may be required. FOR INSTANTANEOUS VIEWS ON WATER, it will be best to treat the plate same as for Landscapes, by soaking plate in Pyro Solution first.

For Landscape, Machinery, Architecture, &c., on B plates, use ½ dram each Nos. 1 and 2 to each ounce water, adding more of each as may be required, No. 1 giving density, No. 2 giving detail and hastening development.

After rinsing off developer, immerse in 10 per cent. solution common alum, 3 to 5 minutes, then wash and fix in Hypo Solution, hyposulphite of soda 4 ounces water, 20 ounces, after which wash most thoroughly and dry spontaneously, and varnish with Keystone Negative Varnish. Should the film have a yellow tinge after fixing and washing, immerse for a few minutes, or until color is removed, in the following Bleaching Solution:

Water.....20 ounces
 Alum.....11½ "
 Sulphuric acid.....1½ "

Wash afterwards and dry spontaneously.

Per package.....60 cents.

DEVELOPING FORMULA

—FOR—

CARBUTT'S GELATINO-ALBUMEN

OPALS AND TRANSPARENCIES.

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 MULTUM 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 Gelatino-Albumen Plate, then expose from 10 to 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. For Lantern Slides, the dry plate is placed in contact with the Negative without a mask.

No. 1.

Neutral oxalate potash..... 8 ounces.
Warm distilled or water from ice..... 32 ounces.
Citric acid..... 60 grains.
Bromide of potassium..... 180 grains.

No. 2.

Sulphate of iron..... 3 ounces.
Distilled or ice water..... 32 ounces.
Sulphuric acid..... 8 drops.

For use, mix equal parts No. 1 and No. 2, *pouring number two into number one.*

No. 3.—FIXING SOLUTION.

Hyposulphite of soda..... 4 ounces. | Water..... 20 ounces.

No. 4.—CLEARING SOLUTION.

Water..... 20 ounces. | Alum..... 1½ ounces.
Sulphuric acid..... ¼ ounce.

DEVELOPER FOR TRANSPARENCIES.

No. 1.—Oxalate solution..... 2 ounces. | No. 2.—Iron Solution..... 2 ounces.

Place solution in developing dish and lower plate into it, letting the developer flow over in one even wave; develop until detail in high lights is plainly visible, wash off developer and fix in No. 3 Solution; when quite cleared of all unreduced bromide, wash well, immerse one or two minutes in No. 4, again thoroughly wash and finish by going over the surface with a swab of absorbent cotton, while water runs over the plate; dry spontaneously.

DEVELOPMENT OF OPALS.

Proceed as for transparencies, developing until detail in face of a portrait is just well out, remove from developer and flow over a 5-grain solution bromide of potassium to *instantly* arrest development and preserve brilliancy; wash, fix, etc., as recommended for transparencies.

NOTE.—Opals to be viewed as positives by reflected light, development should be stopped as soon as the fine half tones in the face of a portrait are visible; when to be viewed by transmitted light either for the window or lamp shades, development should continue until detail in face of a portrait, or high lights in a landscape, is well out, increasing the exposure to 25 or 30 seconds to lamp or gas-light, and diluting developer with one-third water gives warmer tones. Opal plates with matt surface for artist work are made to order on a slight advance in cost above bright surface opal.

DEVELOPING FORMULA

—FOR—

CARBUTT'S GELATINO-CHLORIDE

OPALS AND TRANSPARENCIES.

No. 1.

Neutral oxalate of potash..... 3 ounces.
Chloride of ammonium..... 40 grains.
Bromide of ammonium..... 20 grains.
Distilled, or water from ice..... 20 ounces.

No. 2.

Protosulphate of iron..... 240 grains.
Water..... 20 ounces.
Citric acid..... 120 grains.

No. 3.—ALUM SOLUTION.

Water..... 20 ounces.
Pulverized alum..... 1½ ounce.

No. 4.—FIXING BATH.

Hyposulphite of soda..... 4 ounces.
Water..... 20 ounces.

Expose plate in contact with Negative in a deep printing frame, to diffused light for from 4 to 8 seconds; lamp or gas light, 5 to 8 minutes, or to the light of 1 to 2 inches of burning magnesium ribbon, at a distance of 10 or 12 inches from negative. To develop, mix equal parts Nos. 1 and 2, pouring No. 2 into No. 1. The image should show gradually; for very warm tones, dilute developer with equal parts water and add 1 or 2 drops bromide solution to each ounce developer, but be sure and give at least double the exposure, do not carry the development of the opals too far as they lose very little in fixing. For a positive picture on opal, the development should be arrested the moment the detail shows in the high lights, and this is most effectually done by quickly removing the plate from the developer, and flushing over the surface a 5-grain solution bromide potassium; this instantly arrests development and preserves the brilliancy of the image.

Wash and immerse in No. 3 for 3 to 5 minutes, again wash and fix in Solution No. 4 for at least 10 minutes—wash thoroughly and before placing to dry, go over the surface with a swab of absorbent cotton while water is flowing over it, then dry spontaneously. Opal plates with matt surface for artist work are made to order on a slight advance in cost above bright surfaced opal.

N. B.—If the tone by simple development should not be considered satisfactory and a more decided purple tone desired, this can be secured by toning the chloride print before fixing, using the ordinary toning bath, in this case the exposure must be increased and developer diluted as recommended for warm tones, so as to produce by development a decided red image. See PHOTOGRAPHIC TIMES, March 20th, 1885, pages 140 and 145.

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