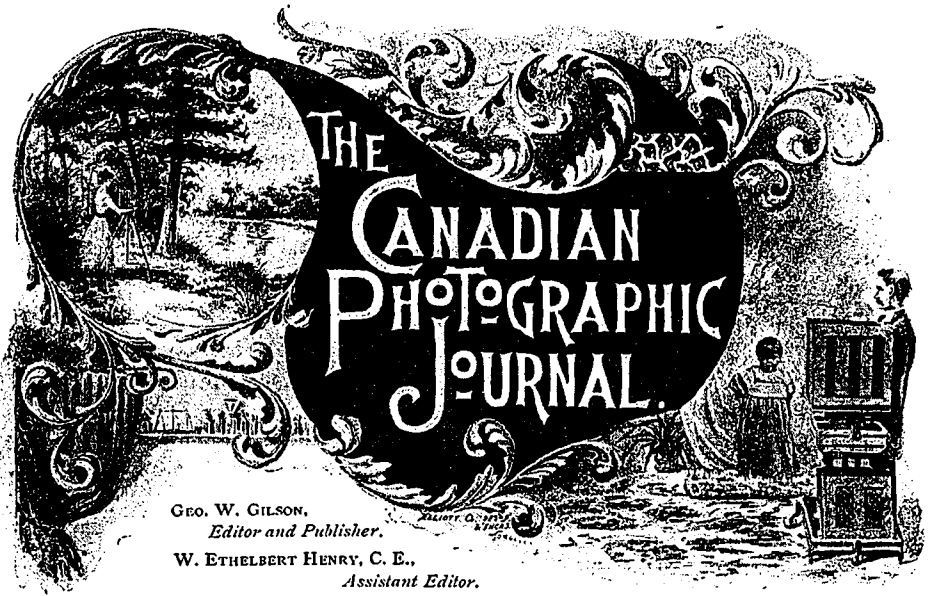




N. Y. ARISTOTYPE PAPER.



GEO. W. GILSON,
Editor and Publisher.

W. ETHELBERT HENRY, C. E.,
Assistant Editor.

Address: P. O. Drawer 2602.
 Office of Publication: 38 Adelaide St. W.

Devoted to the Interests of the Professional and Amateur Photographer.

VOL. II.

Toronto, June, 1893.

No. 5

Our Terms for Subscription:

\$2.00 per Year.	\$1.00 per Six Months.
Single Copies, 25c.	In Advance.

Advertising:

Rates for space furnished on application.

Our Illustration.

WE give our readers this month a sample of work done on a printing paper that is very popular with our Canadian photographers, "N. Y. Aristo." The N. Y. Aristotype Co. have every facility for turning out good paper, and that they do, is shown by the immensity of their out-put, which is something marvellous, already crowding the capacity of their large new factory. The Messrs. Cositt give their personal attention to each department, and deserve the success which has crowned their efforts. We feel confident that our readers will be pleased with the fine results here shown on their N. Y. Aristo Paper.

Mr. W. Ethelbert Henry.

Owing to the rapidly increasing circulation of THE JOURNAL, we have found it necessary to secure the services of an assistant editor, we have been fortunate in finding just the man we want, at just the time we wanted him, and take pleasure in stating to our readers, that, beginning with the current issue, Mr. W. Ethelbert Henry will occupy the position of assistant editor of THE CANADIAN PHOTOGRAPHIC JOURNAL.

Mr. Henry hardly needs any introduction to the photographers of Canada, being a Canadian himself, and already well and favorably known to most of them through the well written articles from his pen, which have appeared in many of the leading photographic journals. Mr. Henry has just returned from England, where, for some years, he has been closely con-

nected with the *Practical Photographer*. He has been well educated in the art, and his connection with photography as a practical and scientific photographer and journalist, will make his services of great value to this journal. With the help of Mr. Henry, we intend to go right into the question of increasing the popularity of THE JOURNAL, and shall give our readers the benefit of the best working formulæ as they become known, and keep THE JOURNAL thoroughly abreast of the times in every way.

We will do our utmost to make the home journal of the Canadian photographer the *best* of its kind. To accomplish this result, we want not only your subscriptions, but your hearty co-operation and help in making it such. We want *your* assistance in making it a credit to Canada. You can help in many ways—as by sending in any news from your part of the country, any questions you would like answered upon troublesome points, any ideas in working plates, papers or chemicals you may have discovered, which might help a brother artist a step onward in life. If only one quarter of the photographers of Canada would devote twenty minutes each month to this, their home journal, what a grand journal Canada would have. This journal is not published for *our* pleasure, but for *yours*—your pleasure and instruction, and anything you can do or suggest for its advancement or improvement, will be gladly received and acted upon.



Concerning Comfort.

NOW that the hot season is so rapidly approaching, it would be well if our readers would seriously consider any reasonable means of securing comfort for themselves and their employes. We need hardly em-

phasize the fact that a studio which is well ventilated and cool during the hottest summer day is bound to prove attractive to the general public. We will endeavor to point out, in few words, how this desirable end may be attained at very trifling expense.

We claim no originality for the idea, which is, we believe, due to an accomplished English photographer.

The materials required are a few feet of $\frac{3}{4}$ inch iron pipe (sufficiently long to extend the entire length of the skylight), together with a stop-cock connecting this pipe with the dark-room supply. An additional tap inserted at the lowest point of all is useful to ensure the entire emptying of the auxiliary pipe when not in use, and so prevent any possibility of bursting during winter time. A series of very small holes drilled at intervals of a few inches along the length of the skylight pipe completes the arrangement, which can be easily carried out by any ordinary mechanic in a few hours. Of course it is hardly necessary for us to add that this perforated pipe when in position must be situated along the extreme top of the skylight on the outside.

During the heat of the day, when the water is turned on from the dark-room, causing a gentle spray to run over the surface of the glass, the comfort gained by the consequent lowering of temperature is indescribable. Operators and sitters are alike cool and good tempered, and work in the studio becomes a positive pleasure.



Gelatino-Chloride.

W. ETHELBERT HENRY.

AT this season of the year photographers are usually on the alert to hear of anything in the way of a novelty, even if it be in the form of an old idea resuscitated,

that will help to replenish their coffers.

My object in writing the following is to point out to my co-workers a simple method of producing large sized transparencies from negatives, in their possession, without incurring a tithe of the usual expense, and without any of that risk of loss attendant upon the production of toned transparencies by a development process.

Certainly, it is necessary to make one's own emulsion, but this need not be looked upon as an objection, since all the manipulations are of the very simplest and may be carried out in subdued daylight. Again, this practice in emulsion making, simple as it is, may at some future date prove of the greatest benefit to some of my readers, should they ever attempt the more complicated methods.

Before giving the formula I would like to offer a practical suggestion as to the best way of pushing the sale of such pictures.

Many of my readers will be tempted to tell a customer that they can finish photographs in such a style if required, but without showing specimens; or, what is even worse, exhibiting samples in an unfinished condition. It is my firm belief that a certain sale is more likely to be effected by an enterprising man showing a finished print of a customer's own portrait, or pleasure grounds, than by any amount of talk. The expense is trifling enough for anyone to try my method without much anxiety as to the result. Most stock dealers carry a full line of transparency frames, tastefully gotten up with suspension chains and ornamental ground glass backing, and these frames are supplied in most of the standard sizes at merely nominal cost.

The emulsion formula, calculated for a small experimental batch, is due to

Mr. Barker and is as follows :

Gelatine (Nelsons No. 1, and Coignet's, equal parts).....	175 grains.
Chloride Ammonium	18 "
Rochelle Salts	50 "
Nitrate of Silver.....	75 "
Alcohol.....	4 drams.
Water.....	5 ozs.

Dissolve all the ingredients, excepting the silver nitrate, in the water at a temperature of 100° F. (this is best accomplished by placing the vessel in an outer receptacle containing hot water), then add the silver in crystals, and shake well until thoroughly incorporated. Let it remain at a temperature of about 100° F. for half an hour, with occasional shaking, and then filter through chamois skin.

The clean glass plates may now be coated in the usual manner, allowing just sufficient emulsion to nicely cover the plate; place on a level shelf or slab to set, and stand away in a drying rack in a room free from dust, to dry. If preferred, the plates after setting may be laid flat upon a table, and a few sheets of brown paper supported over them at a distance of a few inches, to prevent the settlement of dust. Of course, if an ordinary room is used for the purpose, care must be taken to prevent the undue admission of daylight.

When dry, the plates should have a slightly yellowish, opalescent appearance by transmitted light, and the surface should be bright and hard.

To produce a print, place a plate in contact with a negative in an ordinary printing frame, and expose to daylight, as in printing albumen or aristo paper. To examine the print, open half of the frame and note the general appearance both by reflected and transmitted light. A very few trials will convince you how certainly the proper density may be

judged, and even if over printed the resulting transparency generally turns out very satisfactorily if left a little longer in the fixing bath.

To finish the prints, it is only necessary to soak them in a few changes of water to remove the free silver, and then pass them through any ordinary gold toning bath. They tone rapidly and fix (in hypo, 2 oz. ; water, 20 oz. ;) in about five minutes, though I generally leave them for ten. Washing takes about an hour and a half, and the plates are then dried in the usual way. The transparency may now be placed face to face with a piece of finely ground glass and a strip of gummed paper fastened around their edges to exclude dust, prior to screwing up in the final brass frame.

The tones possible in this process are exquisite in their range.



Halation and False Tonality.

BY JOHN CLARKE.

90° Fahr. in the shade has come so suddenly that I have not got used to it, and dreading the physical exertion necessary for the laboratory work that usually furnishes the necessary inspiration, this article must be the outcome of thought rather than of work.

Some four or five years ago, while on a Western tour, I had the pleasure of attending a meeting of a photographic society long since defunct, at which the paper of the evening was one by the genial astronomer of the Dearborn Observatory on the light of the dark room. His plea was for ruby glass, and that only of a particular kind, known to the trade as *copper ruby*, and it was wound up by the comforting assurance that so difficult was it to get the right thing, that in a search through

the whole of the "second city" he had been able to obtain only one small piece.

In the course of the discussion that followed, the editor of a photographic journal took pretty strong exception to the professor's statement that for high class work a suitable ruby, or indeed a ruby of any kind was essential, enforcing his opinion by the statement that during a recent tour through several states he found many of the best photographers doing the highest class of work under a yellow or orange-yellow light ; to which the professor replied that that did not at all affect the question, as *professional photographers did not know when their plates were fogged.*

Now this dictum of the professor is my text to-day, or rather the subject over which I have been dreaming or trying to dream out something that may be of interest to my readers.

Whether or not the average photographer knows a fogged negative when he sees it is not of much consequence, as under certain conditions, the presence of a certain amount of veiling is a real improvement, but there are other things which he does not seem to know which are not so, and by the knowledge, or recognition of which, and the determination to avoid them, his work would be vastly improved.

Two of the most injurious and most easily avoided are halation and the improper rendering of colour-value ; and of both the average photographer is either really ignorant or to both supremely indifferent.

Halation in its most pronounced form, as it appears when an interior is photographed with the lens pointing to a window, or when bare branches or well defined lines are taken against a well lighted sky, they may know well enough, but those are not the only subjects in which it appears, as it is more or

less present, and exerts a more or less injurious influence on every photograph that is made on an unbacked silver-bromide film. But the average photographer doesn't see it, and nothing short of a few carefully made experiments will make him believe it.

Rays of light passing through the lens, fall on the gelatine-bromide film, and a certain proportion of them are absorbed or utilized in the production of the latent image. But another, and probably a very large proportion are not so employed, but pass through the film and reach the outer surface of the plate, only to be, or at least a certain portion of them by reflection sent back to do the work that they had skipped. It will be evident that only rays falling on the plate at an angle will be so reflected, and as a ray is reflected at an angle incident to that at which it falls, those returned rays will exert their influence on parts of the film different to those through which they passed on entering. The secondary images thus produced are, as I have said before, always present, as anyone may readily see for himself by exposing a plate one half of which only has been suitably backed, although, of course, they are more pronounced on brilliantly lighted, and strongly contrasted subjects.

So far as I know, Mr. Carbutt is the only maker in America or Canada who has put on the market a suitably backed plate, but plate makers are energetic enough to meet any demand that may be made on them, and I have no doubt but that if photographers generally really knew the value of backings, there would soon be nothing else on sale.

In the meantime backing is a simple process that anyone may do for himself, coating a week's supply in a leisure evening hour. While any pigment that can be brought into optical contact

with the back of the plate will answer the purpose. Nothing can be simpler than a thinnish paste or thickish cream of dextrine water, and burnt sienna, with a little glycerine to prevent its drying powdery. It is enough to simply smear this on with a sponge and set up to dry.

The true rendering of color values is another matter of which photographers are either foolishly ignorant or culpably careless, as it has been one, if not the greatest, of the reproaches of photography since ever it stood on art's threshold.

Up to recent times photographers could not help themselves, but had perforce to be content to translate the luminous yellow as if something akin to black, the lowly luminous blue as if were almost white, and the rosy-cheeked Hebe, unless cured by much retouching, as if ornamented with patches of court plaster. But, thanks to orthochromatic plates, they have not the same excuse now, although I venture to say there is not one photographer in a thousand who avails himself of them.

This is not as it should be, and photographers who thus refuse to adopt such a valuable help to the improvement of their work and yet complain of the falling-off of photographic business, are deserving of but little sympathy. It is true that the method of orthochromatization is not yet perfect, and that the orthochromatic plate does not yet do all that could be wished, but those at present on the market, and at prices the same as ordinary plates, are such a vast improvement on the unorthochromatized kind that I cannot understand why any man anxious to do the best possible work should ever think of employing anything else, and certainly anyone who will fairly try a properly-backed orthochromatized plate will never do so.

Date of the Convention.

To the Editor of THE JOURNAL :

"A Member," writing in the May number, questions the wisdom of the Executive Committee in calling the convention for Nov. 1st, 2nd, and 3rd. I desire not to be too positive, but can't help feeling pretty sure, that if "A Member" had participated in the deliberations of the Committee, he too would have decided for that date.

As secretary, I am instructed to say, that constant complaints have been made to the Committee about the time the convention is usually held (first week of the Fair). Photographers of Toronto cannot, they say, give attention to the meeting if held during Fair time. Immediately after the Toronto Fair, photographers get quite busy attending to their own local fair or fairs. Unquestionably, photographers are freer about the time selected than at any other; the summer and fall work is through, and the holiday work not yet commenced. 'Tis quite likely some of our number will visit Chicago during the convention of the P. A. of A. Such persons on their return could hardly leave their business so soon after to attend our convention. We certainly want to benefit by the presence of those who may so visit Chicago.

Again, the gentlemen whom we expect as demonstrators, etc., could not attend our convention if held about the usual time.

Indeed, Mr. Editor, the Committee gave the matter a thorough sifting and were satisfied that the date selected (Nov. 1st, 2nd, and 3rd) was the best.

Faternally yours,

E. POOLE, Sec.

P.S.—It is well perhaps to say to the fraternity "Look out for the circular and prize list."

Books Received.

THE LIGHTING IN PHOTOGRAPHIC STUDIOS.
By P. C. Duchochois. New York: Scovill and Adams Company. No. 44. Scovill's Photographic Series.

In *The Lighting in Photographic Studios*, the Scovill and Adams Company have added another gem in instructive photographic literature to their ever popular series. No one can read it without receiving great benefit from the practical instructions it contains, while to the novice it is simply indispensable. Mr. Duchochois has treated the subject of lighting, in all its phases, in a masterful way, and has made the work still more instructive and interesting by illustrating many of the most prominent points. The book comes handsomely bound in cloth, uniform with the others of this series, at one dollar, and can be ordered through this office if desired.

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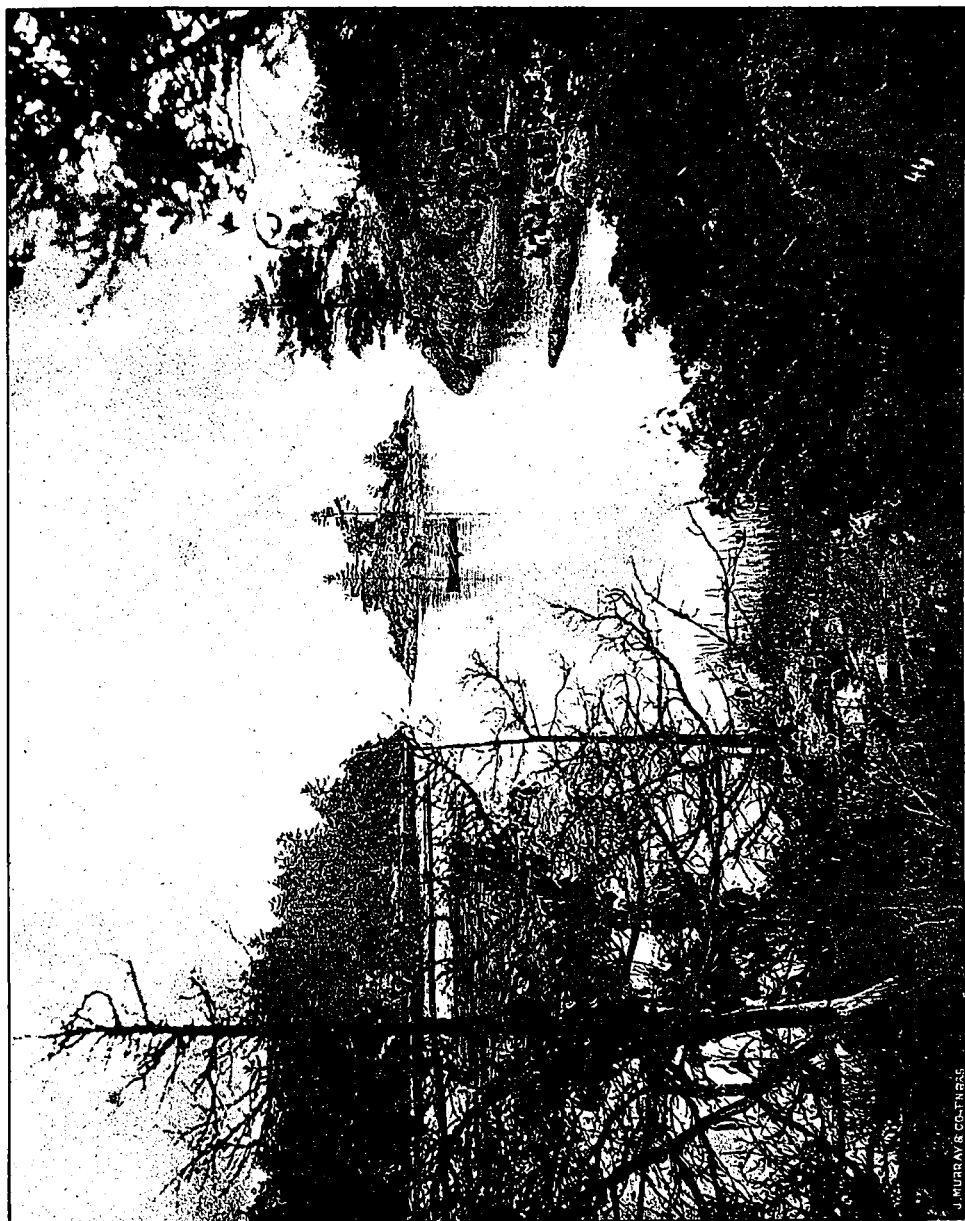
PHOTOGRAPHIC MOSAICS. New York: Edward L. Wilson.

This excellent annual comes to us this year full, as usual, of good things well said. It is highly illustrated, in fact, it fairly bristles with half-tone reproductions, most of them well done.

Taken all together it ranks well up among the annuals of '93, and is sure to have a large sale. The price is as usual.

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From Taylor, Taylor and Hobson, of London, England, we have received an interesting pamphlet descriptive of their improvements in lens fillings. These improvements are carried forward on the lines adopted lately by the Photographic Society of Great Britain, which were a series of screw sizes appointed by a committee of distinguished scientific men, to secure inter-



LANGSTONE ISLAND.

J. MURRAY & CO. TORONTO

changeability among the lenses of the various makers. For their work in this direction the firm received the only medal of the Photographic Society of Great Britain for apparatus in 1892.

The following outlines the points of their improvements on the lens fittings now in use, and are points well taken. The use of these fittings should become general.

1.—Every photographer knows the trouble of attaching lenses to the camera, the difficulty of finding at what part of their revolution the screw threads first engage. This difficulty is abolished by a new and peculiar formation of the screw. Both lens and flange being marked with arrows, it is only necessary to place these arrows in line to secure instant engagement of the screws.

2.—Exactly three turns bring the lens home, and three release it. There is no risk of dropping a valuable instrument through uncertainty in this respect.

3.—The form of screw renders it impossible to cross the threads.

4.—Any number of lenses fitting the same flange will screw home with their diaphragm indexes or other fittings in one position.

5.—Standard adapters are used to carry any lens in a flange larger than its own.

A complete technical description of the system will be forwarded to anyone who may apply to these gentlemen.

• • •

Mr. H. Snowden Ward of the *Practical Photographer* has published a booklet of great interest to our English friends who purpose visiting Chicago this summer.

It is aptly named "A Few Notes" and comprises a well written description of the several cities to be visited, with notes as to the necessary clothing, routes, dark rooms, etc., also some

good hints on "Health in Chicago" by a physician of note.

The pamphlet will prove very useful to those visiting the World's Fair.



"B. P." Aristo Pictures.

Some prints just received from Messrs. Bradfish and Pierce, made on their popular "B. P." brand of Aristo paper, show well the beautiful tones this paper is capable of yielding, others on the "Matt Surface" paper of this firm, are very pleasing. The effects to be obtained on "Matt Surface" paper are not as yet, quite appreciated by our photographers, or more of it would certainly be used.



Mr. H. A. Osborne, of Deseronto, has a nice ground floor studio on the main street and is turning out some nice work a sample of which is before us.

• • •

From J. A. Smith, of Trenton, we have received some excellent samples of children's pictures.

• • •

We have to thank Mrs. Black, of Gananoque, for a picture of herself and also one of cute little Miss Black. Mrs. Black deserves great credit for the really good work now being done in her studio.

• • •

From the Misses Katharine and Bertie Haskell, of Passaic, New Jersey, we have received several photographs of charming bits of scenery near their summer home on one of the Thousand Islands and also near their New Jersey home. The pictures are entirely the work of these young ladies, and show considerable artistic merit.

Correspondence.

Editor Canadian Photographic Journal.

Dear Sir,—About nine months ago we read in the C. P. JOURNAL an advertisement inserted by J. F. Latimer, offering to refine photographic waste, etc. At that time we had a quantity on hand and we decided to ship it to him.

We at first tried to pack it in a barrel, but found that we could not get it all in although we jumped it down all we could. We then decided to burn it, which we did in a tub, out of doors, on a calm day. We then got a cooper to cut a groove and fit a head or cover to a pail, into this we put the ashes, sprinkling them with water as we put them in; to this we added what residues we had. We might say here that we always keep our sensitizing bath up to 60 qrs. So you can form an idea what this quantity of waste, etc., was worth. We requested Mr. Latimer to make returns in metallic silver and counted on at least ten ounces. We did get a card from Mr. Latimer acknowledging receipt of this package and complaining of there being some nails and pieces of glass in it. It is quite possible there was, but we did not count on any returns from them, although glass is an excellent flux. Now we will not ask your readers to guess what returns we got.

About three months after our sending it we received by mail two ounces of nitrate of silver, done up in paper, but not a word of explanation, and notwithstanding we have written to him twice at long intervals he has not condescended to make a reply. Knowing that you will not lend your columns to be used against your subscribers, we ask the favor of the insertion of this letter.

It would be interesting to learn how others have fared with Mr. Latimer.

Yours, etc.,

MOSS PHOTO CO.

Halifax, N.S., May 18, 1893.

**Answers to Correspondents.**

Arrangements have been made with a photographic expert of acknowledged ability, whereby our readers may have the benefit of his experience, through this column, absolutely free of charge. Queries must be received by the first of the month to ensure their appearance in the current issue.

Correspondents requiring detailed advice by mail, must enclose a fee of One Dollar.

All communications for this column to be addressed

W. ETHELBERG HENRY,
SARNIA, ONTARIO.

J. T. A.—Your trouble with P.O.P. paper lies principally with your negatives, which are rather too severe in contrast for securing the best results on a gelatine paper. Your negatives should have a longer exposure, and a development calculated to bring the half tones into more prominence. If you use a pyro formula, reduce the amount of pyro in the developer and so secure a more harmonious negative.

The "Sunbeams" are apparently toned in a carbonate bath, but we would most strongly urge the use of the favorite bath of the Ilford Co.

Sulpho-cyanide ammonium	30 gr.
Gold Chloride	2 gr.
Water	20 oz.

Be sure to wash away all free silver before toning, and do not tone too far. The instructions of the Co. as to the requisite appearance of the toned print are rather misleading to a beginner. When first put into the sulpho-cyanide bath the prints turn to a sickly yellow and then soon acquire the tone required. *Do not* carry this tone to a purple or blue, but only *just a shade* deeper than you require. If the prints lose tone in fixing *do not worry* but go right on and they will come all right. We have used many quires of this paper and had

trouble at first, but like it much now. The water is not at fault, you use too strong a toning bath and carry toning too far. Let us hear how you succeed with your next batch.

• • •

J. J.—Through the kindness of the Cramer Dry Plate Co. and of E. & H. T. Anthony & Co. who have fitted up dark rooms at their respective Exhibits, you will have all the opportunity you want for changing plates at the World's Fair free of charge. (2) It is a fact that the use of a tripod is not allowed. (3) Certainly, use Films or Plates, just as you wish.



Personal Mention.

Mr. T. E. Perkins has one of the handsomest photo studios on Spadina avenue to be found in Ontario. Everything about it is modern and elegant. The operating room has a sweep of fully fifty feet, the dressing rooms are handsomely furnished and arranged to suit the taste of any lady, while the dark room, printing room, etc., are so nicely planned as to make it a pleasure to work in them. The studio is fitted in hardwood finish and is well worth a visit. Mr. Perkins has a fine class of trade, and is turning out the same good quality of work which made him an enviable reputation at his old stand on Yonge street.

• • •

Mr. Geo. Knowlton, we are very pleased to hear, has returned from his extended trip to the milder climate of the Southern States, with his health considerably improved. To the untiring efforts and good business management of Mr. Knowlton, is due the great success of the Stanley dry plates in Canada, and we are sure that the many friends of this popular gentlemen will

join us in wishing Mr. Knowlton a speedy and full return to good health.

Mr. Knowlton spent some time at the American "Stanley" factory while in the States, and Canadian photographers may be sure that no points that would add to the quality of the plates made here escaped his notice.

• • •

Mr. Rich Dukelow, of Brockville, has just returned from his all-winter visit to the southern part of the States. He brought back some beautiful negatives of scenery in the "sunny south," among them some very funny ones of the "colored population." We are exceedingly glad to hear that his health is vastly improved by his sojourn in the mild climate of the south.



Notices.

From the C. E. Hopkins Co. of Brooklyn, N. Y., we have received sample prints upon their Omega paper.

The photographer has not been happy in his choice of a sitter, but the quality of the prints is of the best and the range of tones is particularly pleasing.


The same firm submit a charming child portrait beautifully printed in a color somewhat allied to Bartolozzi Red, only, in our opinion, far more agreeable to the eye. It is mounted in strict accordance with good taste and is altogether one of the prettiest things we have yet received. We advise our readers to give the paper and formula a trial, especially for child studies.

• • •

We have received from Messrs. J. G. Ramsey & Co. a sample of the new developer "Metol"; and from Messrs. Anderson & Robinson samples of their recently introduced non-halation plates. These will be thoroughly tested, and our report made in the next issue.

Keeping a Sharp Look-Out for the \$2.00 Fee.

Frederick Villiers, of London, a correspondent of the London *Black and White*, was arrested on Midway plaisance last week for carrying a camera without a permit from the person known as the official photographer. The arrest was instigated by a private detective hired by the official photographer for the purpose of seeing that no pictures were taken except by the official employes. Mr. Villiers was immediately released, but he was highly indignant, and said he did not think it was the treatment due a correspondent who was taking pictures solely for publication. He proposes to make a test case of it. The officials of the national commission are highly indignant at the action of the private detective, inasmuch as the council of administration recently modified the restrictions contained in the contract, which now permits photographs to be taken for the use of the newspapers.

 EXTRACT from a letter from Mr. B. W. Kilburn, who has the exclusive privilege of making stereoscopic views at the World's Columbian Exposition.

LITTLETON, N. H.

April 7th, 1893.


G. Cramer, Dry Plate Works,
St. Louis Mo.

GENTLEMEN,—I had fine success using your plates and it is solid comfort to have a stock of such plates on hand, it gives courage and you know to a nicety what is possible.

I did not lose *one* plate in *two hundred and ninety two* exposures (*all Cramers*) from *any fault in the plate* while in Chicago this last time.

Yours very truly,
B. W. KILBURN.

An Interesting Building for the World's Fair.

 HOSE of our readers who propose to visit the World's Fair in company with their camera, will read with pleasure the following letter from the Cramer Dry Plate Works. The use of the Dark Room provided by the thoughtfulness and generosity of this company will probably mean *thousands* of more pictures to amateurs, than it would have been possible to get had they been forced to depend upon filled slides carried with them with no chance to reload.

It is safe to say, that *most* of the plates used on the grounds, will feel perfectly *at home* in the Cramer Dark Room at the World's Fair.

Office of

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

May 19th, 1893.


Editor Canadian Photographic Journal:

DEAR SIR,—It affords us pleasure to inform you that we have secured the exclusive privilege for the erection of a dark room on the grounds of the World's Columbian Exposition, for the changing of plates and reloading of cameras.

The work of construction has begun and will be completed June 1st.

A competent attendant will be on hand to assist in changing plates etc. This *Dark Room* will be dedicated to the *free use* of the Photographing Public with the compliments of,

Yours truly,
G. CRAMER, DRY PLATE WORKS.


An appropriate heading for notice of a photographer's death would be, "Taken from Life."

Notes and News.

AN ENGLISH PHOTOGRAPHIC EXHIBIT FOR CHICAGO.—Mr. Dore of Sandown, Isle of Wight, a winner of many photographic prizes, has sent off for the World's Fair by the "Paris" a show case and stand containing 304 photographic transparencies for the lantern. The case when mounted on the pedestal stands seven feet high, the whole being an achievement of no mean artistic skill. It is four feet, nine inches wide, the top prettily ornamented and painted, like the rest of the structure, black and gold. It is in the views themselves that evidence of the patient industry and skill of the artist are to be found.—*Photography.*

. . .

AN ENTERPRISING FIRM of dry goods merchants have hit upon a novel way of increasing their business. They have started a photographic gallery in connection with the store, and are making photographs at absurdly low rates. In their advertisement they say, "We shall have accessories that nothing but a dry-goods store could supply. Wraps, hats, lace scarfs, screens, bric-a-brac, fancy parasols, drapery, etc., can be borrowed from our many departments to make the photograph elegant. You can be taken in the newest style of Paris hat and cape without extra charge." We presume the idea is that after the lady has been shown a photograph of herself in the latest Paris hat it will require but little persuasive power to induce her to purchase it.—*Photo-Times.*

. . .

AN EXHIBITION of photographic pictures, to be called the Photographic Salon, will be held at the Dudley Gallery, London, W., from October 9th to November 11th, 1893.

Careful consideration will be given to all pictures entered for exhibition, and

a selection of works of pictorial merit only, made by a committee.

Foreign as well as English photography will be represented.

The aim of the organizers of this, the first Photographic Salon, is to inaugurate a series of exhibitions (which it is hoped may be annual ones), bringing before the public the best productions of photography solely from the pictorial point of view.

No awards are offered, and no charges made to exhibitors.

The usual charge of 1s. will be made to the public for admission.

Arrangements will be made for the sale of pictures (if desired), and a commission of 15 per cent. will be charged on sales effected.

The committee consists of no less than thirty-five well-known workers, including such men as Alferi, Burchett, Colls, Davison, Gale, H. P. Robinson, Lyd Sawyer, Sutcliffe, Blanchard and Bhedwar.



Hints on Art.

Do not talk of Rembrandt pictures, there was but one Rembrandt. Light your pictures as best you can and call the pictures your own.

Do not call yourself an "artist photographer" and make "artist-painters" and "artist-sculptors" laugh; call yourself a photographer and wait for artists to call you brother.

It is not the apparatus that does the work, but the man who wields it

By the envy, lying and slandering of the weak, the ignorant, and the vicious, shall you know you are succeeding, as well as by the sympathy and praise of the just, the generous, and the masters.—P. II. EMERSON, in *Naturalistic Photography.*

Toronto Camera Club,


OFFICERS 1892-3.

E. HAVELOCK WALSH,	- - -	President.
A. W. CROIL,	- - -	1st Vice-President.
W. H. MOSS,	- - -	2nd Vice-President.
ERNEST M. LAKE,	- - -	Secretary.
R. G. MUNTZ,	- - -	Treasurer.

Club Rooms and Studio:

COR. YONGE AND GERRARD STREETS.

.....

 N Monday evening, May 17th, the Club was honored by a visit from His Grace the Duke of Newcastle and Mr. Gambier Bolton, who are travelling together on a tour around the world. The Duke of Newcastle is an enthusiastic amateur and Mr. Bolton has achieved a world-wide reputation as an animal photographer.

The distinguished visitors arrived about half past eight, accompanied by Mr. Henry Cawthra, Mr. W. H. Cawthra and Mr. K. Evans, and were received by President Walsh and the officers of the club. After the members had been presented, the Duke and Mr. Bolton produced a number of cameras and other apparatus for inspection. Among the cameras was a magnificent cabinet size, twin lens hand camera, manufactured specially by Ross & Co., both lenses being mounted in aluminium. They also showed a very fine whole plate hand camera with the lens working at a practically fixed focus. All the cameras were supplied with Prosch shutters, Mr. Bolton expressing a great preference for that shutter at all times and particularly for use in the tropical climates that the Duke and himself intend visiting. They also showed several very unique changing bags which worked in a remarkable manner and in a space very little larger than the plates themselves. Several finders specially made by Ross & Co. were then shown. They are very large and by a curious arrangement of

mirrors show the image perfectly, without being covered by the hand or darkened in any way, even when pointed directly towards the sun. Mr. Bolton was kind enough to bring also a large number of specimens of his work contained in two large albums. It was a great treat to look over his work and especially interesting as he gave a running explanation of each picture as it was inspected. Mr. Bolton is a Fellow of the Royal Zoological Society of London, and as such has special facilities for working that are not accorded to the ordinary amateur. For instance, the latter must keep beyond the iron railing, which is erected about six feet from the cages, while the former works inside the railing with his lens between the bars. In the majority of his pictures it is difficult to believe that they are photographs of caged animals, as they are taken in such characteristic attitudes, and the absence of bars of any kind heightens the illusion.

Mr. Bolton's pictures comprised specimens of Lions, Tigers, Bears, Hyenas, Elephants, Camels, Leopards, Giraffes, Buffaloes, Zebras, Kangaroos, Rhinoceroses and in fact nearly all the quadrupeds found in the Zoo. He also showed a fine collection of rare birds, among which, the Pelicans, Eagles and Owls were probably the best. The Photos of the Pelicans now adorn the rooms of the Pelican Club in London. His photos of dogs and cats and cattle were remarkably fine. Among the dogs was the Queen's favorite Collie and a couple of other collies which were owned by H. R. H. the late Duke of Clarence. The photos of bull-dogs, terriers and kittens were most interesting and amusing, particularly one of a kitten, "a world of wonder in her eyes." Another very

interesting photo was one of a celebrated blind Blood Hound which was taken by Mr. Bolton no less than *eighty-four times* before he got a satisfactory negative, so difficult was the subject.

Mr. Bolton's *chef d'ouvres*, however, were two magnificent carbon enlargements, each 4 ft. x 6 ft., entitled respectively "Peace" and "War." The former was a fine old lion with a shaggy mane, lying down, and with a very docile expression. The latter was a tigress (called by Mr. Bolton the "Old Lady"). She is crouching close to the ground, just ready to spring, and with an expression of intense hatred in her eyes. They are certainly the most remarkable photographs of the kind ever seen in this country.

After the members had feasted their eyes on these photographic treasures for some time, the Duke and his companion meanwhile conversing with those around them, Mr. Neilson got his lantern in position and a large number of slides, all work of the members, were thrown on the screen. The slides were a very fair collection, but owing to the limited time in which they were got together, not by any means the club's best specimens. The distinguished visitors expressed themselves as much pleased with them.

At the close of the lantern exhibition, Mr. Bolton, at the request of the President, delivered a short lecture on "Animal Photography" to the delight of the members. He said the first photograph of an animal he had taken was that of a dog which an artist friend had desired as a study for a painting. Since that time, nearly twenty years ago, he had devoted himself almost exclusively to photographing animals. Taking it up first as an amusement, he now worked for the interests of

science, to preserve accurate pictures of all animals and especially of those which are rapidly becoming extinct. In addition to working in the Zoo in London, he also works in the Zoos at Paris, Amsterdam, Rotterdam and Cologne. He said a great deal of time, a good deal of patience, and considerable means were necessary to a successful animal photographer, instancing the blood hound which he had taken eighty-four times, and the great Polar bear in the London Zoo, before whose cage he had waited four days before obtaining a satisfactory pose. Some people would call that patience, but he thought obstinacy was a better word or at all events a determination not to be overcome. For scientific purposes it was necessary to show the four legs and the tail of a quadruped and in this the great difficulty lay.

In photographing dogs, cats, etc., he used a platform about 4 feet high, in the grounds of his London residence. He said there was great difficulty in obtaining a picture of a dog standing and with his tail up. Place a dog on the platform, and the first thing he does is to lower his tail or else sit down altogether. However he proved this not impossible, by showing several fine pictures of dogs standing and with the tail well up.

He said the scientific value of his work was shown by the fact that the authorities of the British Museum had only recently ordered a complete set of his photographs to be framed and hung in the Museum. In photographing animals, choose a background which will not draw attention from the subject. Take the animal alone. In photographing a bull for instance, don't have a man there holding on with a pole and ring, take the bull as he is in nature, or in taking a dog, avoid

having him encased in a collar or held by a chain. Don't make a study of the collar, but a picture of the dog unadorned. Mr. Bolton further stated that he strongly deprecated the use of hand cameras for obtaining animal photographs of any value or merit. Use a good rigid tripod and plates not smaller than $4\frac{3}{4} \times 6\frac{1}{2}$ or larger than $6\frac{1}{2} \times 8\frac{1}{2}$. In taking caged wild animals, if permission can be obtained, set your camera up close to the cage with the lens between the bars and focus carefully so that the back of the cage will be somewhat fuzzy and unobtrusive. Then endeavor to become acquainted with your subject and learn his habits and manners. Don't be in any hurry to expose. It will pay you to wait until your subject becomes accustomed to the presence of the camera and moves about taking no notice of it. When you get him broadside to you with the legs and tail showing, quickly uncap and re-cover your lens. Then possibly you may have a good picture. Very frequently on developing you will find he has moved his tail, or an ear, or perhaps a leg, if this is so, the whole operation must be repeated. As a rule do not use the shutter when working on caged animals, the light is often weak and shutter work will give you but little detail, whereas animal pictures, to be of value, must be full of detail and microscopically sharp. Therefore be particular in focussing, use a plate of moderate speed and give a liberal exposure. You may have to make several exposures before being successful, but the time and trouble will well repay you, for you will have something unique and interesting from a photographic point of view, and of great value to the scientist.

At the close of Mr. Bolton's remarks,

which were greeted with enthusiastic applause, a vote of thanks was tendered by President Walsh to the visitors for their kindness in visiting the Club, and bringing their cameras and apparatus for inspection and to Mr. Bolton for his address. The latter replied briefly on behalf of the Duke of Newcastle and himself, and the distinguished party shortly afterwards returned to their rooms at the Queen's Hotel.



Snap Shots.

The Duke and Mr. Bolton went direct to Chicago from Toronto. They then go on to San Francisco stopping at different places en route, and then proceed to Japan, China, India and thence to England.

. . .

The travellers use the Lumière plates which are sent ahead of them from England in gross lots to different places on the journey.

. . .

In India the authorities are getting up a tiger hunt for them, and the pair expect to make good use of their Ross twin lens outfit.

. . .

The first Club outing of the season will be held on Saturday, June 17th. The destination will be York Mills and the upper valley of the Don. Members will meet in the Club Rooms at 1.30 p.m. sharp. A large turnout is requested.

. . .

First Vice-President Croil is having printed a very neat and handy little book for recording exposures, and will shortly place one in the hands of each member. It contains columns for the date, hour, a. m. or p. m., light, plate, exposure, stop used, holder, and subject, and also Prof. Burton's very com-

plete and accurate table of relative exposures. The book is a convenient size for the pocket, and will be much appreciated by the members.


The Secretary has received the announcement of the Triennial exhibition of the Bristol and West of England Amateur Photographic Association, to be held in the Academy of Arts, Queen's Road, Clifton, Bristol, opening 18th December, 1893, and closing 22nd January, 1894. A large list of prizes is offered and the classes are numerous. Photographs from Canada can be sent unmounted. The entrance fee is five shillings for each exhibit covering less than twenty square feet, and ten shillings if covering more than twenty square feet. Entries close and unmounted pictures must be delivered in Bristol by 1st November, 1893. Entries and communications should be addressed to F. Bligh Bond, Esq., Hon. Sec., Bristol International Photographic Exhibition, Academy of Arts, Clifton, Bristol.

An announcement has also come to hand of the first open exhibition of the Amateur Photographic Society of Madras, India, to be held in December next. There is a general competition, a class open to the world, a class for amateurs only, and a class for members of the Society only. In the general class a Gold medal valued at 150 Rupees is presented by H. H. the Hon. Maharajah of Vizianagram, for the best figure study. Another Gold medal valued at 100 Rupees is presented by H. H. the Rajah of Ramnad for the best photograph other than a figure subject. Other medals are presented by the Rajah of Devarakota, also by C. Michie Smith, Esq., President of the Society, by H. H. the First Prince of Travancore, and by the Honorary

Secretary. Entries and communications to be addressed to Fred Dunster-ville, Hon. Sec., Madras. Intending exhibitors are requested to advise the Hon. Sec. as early as possible of the probable number and size of their exhibits, so that ample room may be provided.



Warm-Toned Platinum Prints.

 OLD developed platinum prints immersed in a bath of uranium nitrate assume a brownish-violet tint, but do not go beyond that color, and never change to red, even by a prolonged action of the bath.

Provided always that the development of the print has been by the cold bath process, a reddish (röthel) color is obtainable by the following process :

Add 1 liter (34½ ounces) of the developer from 100 to 200 c.cm. (3½ to 7 ounces) of a 4 per cent. solution of mercuric chloride. Less mercury produces browns of lesser intensity, while with more this intensity of color increases.

If after developing, fixing and washing, the print is immersed in the uranium bath—

Water	1 liter	(34½ ounces)
Uranium nitrate.....	10 grammes	(2½ drachms)
Ferricyanate of potassium ...	2 grammes	(1½ drachms)
Glacial acetic acid.....	60 grammes	(2 ounces)

the tone changes gradually to a fine sepia color, becomes reddish by a continued action, and finally turns to a positive red.

When the desired tone is attained, wash for ten minutes in pure water, acidified with glacial acetic acid, and finally rinse off.


Prolonged washing will either injure or reduce the tone.

Washing the prints in a dilute solution of ferric chloride turns them green. In order to eliminate from the print all excess of iron, wash in water acidulated with hydrochloric or acetic acid.

Continual washing of a green print in water tends to reduce its color intensity which can, however, be restored by again treating it with a solution of ferric chloride.—*Photographische Correspondenzen.*



Prize Pictures of the Eastman Kodak Co.

 **E**LOW we print the awards of the Judges in the Eastman Kodak Co. contest, held by them in order to obtain material for their exhibit at the World's Fair. There were 32 entries in Class A, and 59 in Class B, and numbered in all 744 photographs. A number of the most prominent photographers in the United States and Canada were represented.

Among the photographs sent on for competition in Class A were eight remarkably fine views of Niagara Falls 18x22 inches in size, taken by J. Zybach, of Niagara Falls, Ont. Owing to a clause in the conditions of the contest, which says awards will be made on excellence shown in "posing," among other things, these views and some large views of the C. P. Ry. were barred out of the competition.

EASTMAN KODAK COMPANY,

Gentlemen,—We, the undersigned judges, duly appointed by you to award prizes on pictures on Solio paper submitted for competition under your Grand Prize Offer of recent date, after having carefully examined all the pictures, beg leave to submit the following report of our awards :

CLASS A.

- 1st Prize. Entry No. 7, G. M. Elton,
Palmyra.
2nd Prize. Entry No. 5, H. McMichael,
Buffalo.
3rd Prize. Entry No. 30, Stein & Rosch,
Chicago.
4th Prize. Entry No. 26, B. L. H. Dabbs,
Pittsburgh.

- 5th Prize. Entry No. 16, H. Randall,
Ann Arbor.
6th Prize. Entry No. 11, Marceau & Power,
Indianapolis.

CLASS B.

- 1st Prize. Entry No. 208, H. S. Squyer,
Auburn.
2nd Prize. Entry No. 222, B. L. H. Dabbs,
Pittsburgh.
3rd Prize. Entry No. 233, Bill & Overton,
Cleveland.
4th Prize. Entry No. 224, Harman & Verner,
Bay City.

In making the above award we have been guided by the conditions mentioned in your published circular.

Respectfully,

(Signed), J. F. RYDER, Cleveland, O.
W. F. VAN LOO, Toledo, O.
C. T. STUART, Hartford, Conn.



His Dog Retrieved the Bomb.

A rather reckless Biddeford man, with no respect for law or gospel, is said to have devised a scheme for catching trout by the wholesale, which did not work as well as he thought.

He thought that a bomb exploded in the brook would bring all the fish in it to the surface, so that he would only have to pick them up. He provided himself with a bomb powerful enough to blast a schooner out of water and went to a local brook in which there were said to be lots of trout. He fixed the fuse, ignited it and threw the bomb into the brook.

As he did so his dog jumped in after it, seized it in his mouth, got back to shore and started after his master, who was legging it across the field as fast as he could in the realization of his danger. The man had the good luck to get over a good bit of territory, and a moment later, hearing an explosion, he looked around to see his dog going skyward.—*Lewiston Journal.*

[From *Anthony's Bulletin*.]

Les Petits Metiers and Photography.

BY P. C. DUCHOCHOIS.

(Concluded.)

THE aniline colors are also employed to impress by transfer photo-collographic images on silk and cotton. Photo-collography is well known. It is described in almost every treatise on photography, and we propose to describe in this magazine a simple process for amateurs. Therefore we will presently only explain the manner of effecting the transfer on the materials in question.

The aniline color is prepared thus:

Medium litho varnish..... 10 parts
Aniline colors..... 5 "

The aniline color is first ground in exceedingly fine powder in a porcelain mortar and afterwards triturated with the varnish, to obtain an homogeneous mixture.

For printing, 4 parts of this is intimately mixed with 1 (one) part of wax melted in turpentine, and a few drops of linseed oil, if the ink is too compact.

The transfer is pulled off on albumen paper, not salted; then slightly dampened, to soften the albumen, and immediately placed on the material, when the whole is submitted to a heavy pressure.

This done, the back of the paper is wetted, and, in a few minutes, by slowly lifting it out from one corner, it leaves behind the image impressed on the silk or cotton.

After transferring, the image is often wanting in vigor, but to impart brilliancy it suffices to vaporize it; that is, to lay on its surface three or four sheets of damp calico, and to pass over the whole an iron strongly heated.

The silk does not want any preparation before use, but cotton should be "animalized," as it is termed; that is,

imbued with albumen, which should be rendered insoluble by steam. Mr. Rouanet, to whom we are indebted for the details of the process, states that he has thus obtained on silk with a coarse grain photographs which resembled very fine tapestries.

Photo-collographs in ordinary greasy ink are transferred on wood, marble, ivory or celluloid by the above manner of operating, but the surface of the object should be previously coated with a thin layer of litho varnish. This process is much employed.

The applications of the photogravure process in the *petits metiers* have indeed a great importance. As applied for the decoration of small, or even of large, articles, it does not present the difficulties which sometimes are met with when it is a question of obtaining a plate engraved for printing. It is simple, and therefore one does not require much practice to succeed.

Very thin copper plates, well polished, are ground with a small bung of tissue paper and powdered pumice stone until a fine, even mat surface is obtained, and are then coated with the following bichromate albumen solution. The polished plates are found to be in the market:

White of eggs (about 4) 100 c.c.
Ammonium bichromate..... 2 grams
Water (distilled or rain)..... 50 c.c.

Dissolve the bichromate, add a few drops of ammonia, then the albumen, and beat the whole to a very thick froth; let set now for about ten hours; decant the clear liquid, and, having mixed a very small quantity of india-ink, filter through flannel, to eliminate the bubbles of air.

When coated and drained the plate is dried by fanning or at a low temperature, not over 52 degrees C. This done, it is exposed under an intense

diapositive in line for a few minutes in the shade, and, on its removal from the printing frame, immersed in water for about six minutes, to dissolve the albumen not rendered insoluble by light, and afterwards rinsed under the tap, The plate is then drained and rapidly heated over an alcohol lamp until it can no longer be held by the hand, or immersed in water at the boiling temperature, and finally allowed to dry before etching. The object of treating the plate in this manner is to insure perfect coagulation of the albumen.

The mordant consists of 50 grams of dry iron perchloride and 9 cubic centimeters of hydrochloric acid dissolved in 100 cubic centimeters of alcohol.

For the purpose in question the cuts should not be deep; if they retain the ink it is all that is necessary. Therefore, the plate should not be etched for more than from eight to twelve minutes by immersion in the alcoholic ferric chloride solution, and this, of course, after having protected the back of the plate and the margin with a stopping of varnish, which is simply a solution in turpentine or bitumen, and of a small quantity of yellow wax.

After etching, the plate is washed, the albumen film dissolved in a solution of potassa, and the plate, well rinsed under the tap, is set aside, to dry spontaneously, or by fanning, when the plate is inked or rather coated with the following varnish, applied with a flat brush:

Bitumen	30 parts
Yellow wax	3 "
Lampblack	5 "
Turpentine or benzole	500 "

This coating being dry—well dry—the ink should be removed from the ground, that is, everywhere but from the cuts which form the image, and this is done by rubbing with a piece of

charcoal (from soft wood) cut flat on one of its surfaces. The charcoal is specially made for that purpose, and easily procured.

The engraved image thus made is black on a yellowish red mat ground, the copper.

To obtain a white ground, the plate, inked, etc., is silvered by electrotypy. A decomposition cell, containing the following electrolite, acted on by a single Daniell's battery, is sufficient;

Cyanide of potassium, pure...	2 parts
Nitrate of silver	1 part
Water	100 parts

The plate can also be silvered without a battery; thus, dip it in a solution of common salt, then rub it with a mixture of—

Chloride of silver	1 part
Alum potash	2 parts
Common salt	8 "
Cream of tartar	8 "

Wash dry, etc.

The following liquid is employed as a wash for the same purpose;

Nitrate of silver	10 parts
Cyanide of potassium	20 "
Water	150 "

Zinc is sometimes selected to make engravings for decorating small articles. The image is black on a mat white ground. The *modus operandi* is similar to that above described in engraving on copper.

By this process only line pictures, copies of engravings, etc., can be reproduced. To engrave a photograph from Nature, that is, a picture in half tone, the copper plate should be grained by resin, as done by engravers, or, and which will likely be preferred by amateurs, the diapositive itself is grained by the Berchtol method.

Here is one of the manners of operating: A screen, such as employed by

photo-engravers in relievio, but ruled in one direction with at least one hundred and fifty lines to the square inch, is placed in the printing frame, it must be square—and over it is placed a slow Carbutt's gelatino-silver iodo-bromide plate, one of those employed for lantern slides, and exposed at a certain distance, say, 1 meter, from a petroleum lamp for a fraction of a second; then, in the dark necessarily, the photo plate is turned at right angles on the screen, and again exposed for an instant. Now, the screen being removed and replaced by the negative, one proceeds, as usual, to obtain a diapositive, which, developed by hydroquinone, will present an image formed by a very regular granulation.

As said in the foregoing lines, one obtains by these processes a black image on a mat ground; but if the engraving on the metal be well polished, and discarding the inking, if it is thought best for the effect, the image will show a mat with the color of the metal on a brilliant ground, and it may be silvered, to increase the contrasts by inking the ground before dissolving the photo film in order to form a reserve.

By electrotype duplicates of great thinness are obtained, which, on account of their flexibility, can be applied on uneven surfaces, or pasted on leather, cardboard, etc., for various uses. The image is then in relievio unless, instead of a diapositive, one employs a negative to impress the photo film.

The dusting process has also been applied in the small trades, especially for the decoration of glass in gold. It is simple; thus: a plate quite clean is immersed in water, and, when wanted for use, removed, drained, then coated with a mixture of—

Gum arabic.....	12 parts
Glucose	20 "
Honey.....	4 "
Ammoniumbichromate(sat.sol.)	30 "
Water... ..	240 "

After allowing the excess of solution to drain for two minutes, the plate is placed in an inclined position on several thicknesses of very hot blotting paper and flannel, to hasten the desiccation and avoid the tendency of the bichromate to crystallize.

The photo film is exposed under a negative for six or seven minutes in the sun; then, on its removal from the printing-frame, allowed to become tacky by spontaneously absorbing moisture from the air, or by breathing upon it, when it is dusted with a bronze powder of medium fineness. The bronze takes on the parts till hygroscopic, that is, on those not or little acted on by light, while the wholly insoluble parts will not take hold of it and form the ground of the image. Now, when the powder in excess has been removed by rubbing pretty heavily with a bung of cotton, the plate is coated with collodion, and, as soon as the film is set, immersed in water for a few minutes, to eliminate the bichromate, then rinsed and dried at once, to prevent the oxidation of the metal. This done, the plate is backed with a black or colored varnish, which gives to the image its full value.

The collodion is made according to the following formula:

Ether.....	60 parts
Alcohol.....	40 "
Pyroxyline.....	1 part

The black varnish is a mixture of—

Bitumen.....	20 parts
Yellow wax.....	5 "
Lampblack.....	5 "
Turpentine.....	210 "

To conclude, we will describe a process by which looking-glasses can be

richly decorated with a gold border. We know that this has been done mechanically by the application of masks, etc., but not with the perfection and the delicacy of detail which photography alone can produce.

A glass plate is silvered. Many processes have been published for this purpose. We will describe one of them, that of M. Petit Jean, which generally is employed in the industry: 100 parts of silver nitrate are dissolved in 62 parts of concentrated aqueous ammonia, and 500 parts of distilled water added. After filtering, the solution is diluted with sixteen times its bulk of distilled water and a solution of $7\frac{1}{2}$ parts in 30 parts of distilled water is added by small quantities, stirring well. This constitutes the first solution. The other is prepared in the same manner, cut with twice the quantity of tartaric acid.

To silver it, the plate is first cleaned with putz-powder and a chamois leather, washed with an india-rubber scraper and heated to about 45 degrees C.; then as much of No 1. solution as the glass will hold is poured over it and allowed to act for twenty or twenty-five minutes. After this period, the surface of the plate is cleaned with chamois leather and tepid water and immediately flowed with the second solution, when in about fifteen minutes a strongly adherent specular film is formed.

The silvered plate is coated for the purpose in question with a layer of bitumen of judœa—a solution in 3 or 4 per cent. of benzole or of pure turpentine will do—and when this is quite dry, which requires from fifteen to twenty minutes, the plate is exposed under a diapositive representing the drawing of the border in lines. The diapositive should be intense and free from fog of

any kind in the clear glass. The exposure to the sun must be lengthened to half an hour, rather more than less if the diapositive is of good intensity, and this is a *sine qua non*. On its removal from the printing frame, the plate is allowed to cool, then immersed in a bath of ordinary turpentine, where, by agitating, the bitumen not rendered insoluble by the luminous action will soon dissolve, and as soon as the lines of the design appear clear and sharp, the plate should at once be washed under the tap and gently rubbed with a bung of cotton. This done, the plate is dried and exposed to light for a few minutes, then immersed in a solution of nitric acid of 3 per 100 of water which dissolves the silver in the parts not protected by the insoluble bitumen. Now, the plate is rinsed, dried, and it remains to gild the border and to protect the whole by a coating of a paint consisting of minium, siccativ oil and turpentine.

To gild the border, it suffices to brush a sizing upon it, then to apply gold leaves as done by the gilder for lettering store windows, and when the sizing is dry, the non-adhering gold is brushed off and the remainder polished with an agate, or any convenient tool.

This and every one of the processes described in this paper are susceptible of many other applications which suggests themselves.



A Lens Missing.

About three months ago an 8/10 Morrison wide angle lens was taken from the gallery of Mrs. Black, Gananoque. The number of the lens was 595, and any one knowing of its whereabouts will confer a favor upon Mrs. Black by communicating with her at once.

(Am. Am. Photographer.)

Points on Developing Cold Bath Platinotypes.

BY ALFRED STIEGLITZ.

MANY complaints having reached me as to the non-brilliance of the general run of our American platinotype prints, I take pleasure in divulging my latest method of developing platinum prints. As usual, my stock solution consists of a saturated solution of neutral oxalate of potash. In order to gain the necessary brilliancy in the resulting picture, print until you see the details in the highest lights, you print considerably further than heretofore, thus simplifying matters and making it easier for the tyro. In order to develop, take the stock oxalate solution and dilute it in the following proportions:

Stock solution 1 part.
Water..... 8 parts.

And add two parts of glycerine.

This being a very weak developer, the print will develop necessarily very slowly, the image being built up gradually, similar to the development of an ordinary negative. It sometimes takes as long as five minutes to develop a print. As soon as all the iron is dissolved—that is, when the paper becomes white instead of yellowish—the limit of the development of the print is reached, and the print is then transferred to the acid solution.

Of course, development can be stopped at any stage during the process, it being merely advisable to wait until the limit has been reached.

It is surprising to note the wonderful brilliancy thus gained. In case it is desired to print from an exceptionally thin negative, the developer can be diluted still further, say:

Stock solution 1 part.
Water..... 16 parts.
Glycerine..... 6 “

The result is surprising.

[Pacific Coast Photographer.]

Shutters Theoretically and Practically Considered.

BY SANFORD ROBINSON, Ph. B.

(Continued from May number.)

The Prosch has but one second between the first opening and the final closing, and we must therefore assume the drop to give a half second exposure in order to compare it with the former. The amount of its illumination would therefore be only one-half of that already found and be expressed by the figures .3927 for the square orifice, and by .3256 for the circular orifice. We have found the Prosch to have an illumination expressed by .4506. This shutter therefore gives about 15 per cent more illumination than the square drop or radial revolving shutter and over 38 per cent more than the circular drop and revolver.

If the two blades were made to open from the middle, the same edges returning to the closing line, as is the case with the very neat little shutter recently introduced by the manufacturers of the "Gray Periscope" lens, the illumination for the same diameter of lens and same nominal time would be the same. The advantage gained by the Prosch is in the compactness allowed by the *double* blades. It might be said that the Gray shutter is the most compact of all on account of its diminutive size, it working entirely within the lens tube. The Prosch could be made to do the same thing,

[ERRATA.—The table of illumination given in our May number, contained an error which the writer subsequently corrected in the journal from which we copy the article.

The total amount of illumination should be .6513 instead of .6561 as given, and the percentage found should be 83 instead of 83½. The error is so small as hardly to merit mention except for the reason that the figures .6513 are used in the remainder of the article. On page 123 of the same issue, first column, eighth line from the bottom, read "commencing" instead of "connecting."—Ed.]

but it can be seen that it would give very little illumination. As the Gray blades work inside the lens tube, they must have room to open, and the orifice of the shutter is therefore cut down to about one-half of the diameter of the tube. It must diaphragm out a great quantity of light. I have not had an opportunity to carefully examine this shutter, but, unless the lens is so peculiar as to require diaphragming down to one-half of its opening for instantaneous exposures, it certainly cannot have the amount of illumination of other forms. I leave it to those interested to apply the rules I have laid down to an analysis of this new shutter. The "Low" shutter, which is placed on the front of the lens, will probably give an illumination equal to the Prosch.

An objection to the Prosch form is the shock inseparable from it when operated at high speed, caused by the necessary sudden stopping of the motion of the blades. Although this shock comes after the exposure of the plate and has therefore no effect on the negative, it must have a deleterious effect on the balsam that cements the lenses and on the shutter itself. The writer has in his experience seen examples of both forms of injury, caused by running a Prosch above its normal velocity. This, therefore, fixes a limit to its speed. It is, however, up to its allowable limit of velocity, very strong, durable and convenient, and therefore deservedly popular.

Another objection to the Prosch, *as manufactured*, is one that does not in any way effect its principle. It is generally made too small for the lens. That is, the shutter has an orifice much smaller than the lens tube, which should not be the case. As I said before, it is not the province of the shut-

ter to diaphragm the lens, that being the privilege of the operator. It should be made to allow a full opening, leaving it to the user to diaphragm if he pleases and as he pleases, or if he pleases, not to diaphragm at all.

Another class of shutter is that having an "Iris" diaphragm opening, and which has also, in the example I shall mention, an automatic time attachment. The only shutter of this class of which I know is the

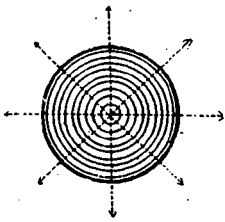
"BAUSCH & LOMB."

This is one of the most ingenious of all shutters, the mechanism being really wonderful, but having the defect of exceeding delicacy. The time attachment depending upon the compression of air in a cylinder and its escape therefrom may be easily affected as to accuracy by wear in the cylinder, as also by dirt in the actuating mechanism. This is not of very great importance if the acceleration or retardation of time is equal; that is to say, if its nominal two seconds is always twice its nominal one second, and so on for other times. Leaving the automatic time attachment out of the question, however, let us examine the shutter itself and see if it is correct in principle. This shutter opens like the well-known "Iris" diaphragm—from center to circumference, and closes inversely. As soon as it reaches the full opening it commences to close. The outer circle or circumference of the opening gets no exposure while the center gets a maximum. Its apparent time is what elapses from the commencement of the opening to its final closure, whereas it is manifest that this time is only that of a mathematical point at the centre. (See Diaphragm No. 9). The opening may be made to extend to any extent desired,

acting as a diaphragm as well as a shutter.

This shutter differs from the Prosch inasmuch as it decreases the duration of the light effect outwardly from the center in every direction, whereas the latter decreases it outwardly in two directions—from the vertical diameter of the lens. In the same time the Bausch & Lomb will give much less illumination than the Prosch. It works, however, without any blow or jar whatever, and in this respect is superior to the Prosch, while its liability to get out of order and the ease with which it may be damaged make it inferior.

Dividing the opening into a number of concentric rings, computing the



9

areas of successive circles and deducting each from the next larger one, we obtain the areas of the rings. Multiplying each by its average time of exposure and summing the products, we obtain the total illumination in a manner similar to that by which the illumination of the drop shutter was obtained. The result for a diameter and time, each equal to unity, is found to be .2651.

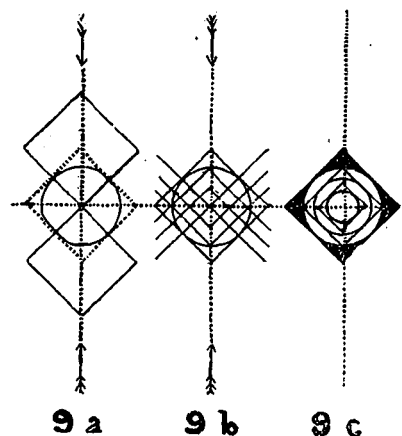
I have no doubt that this result will surprise most of my readers. I am myself surprised at the comparatively small amount, although I have long been convinced, having used a shutter of this make for several years, that it

was "slow" as compared with some others.

A comparison of the Prosch and Iris forms will show without the aid of figures why such a difference exists. A shutter opening from the middle diameter towards the side exposes, as we have seen, the middle strip longer than any other. This strip is the one that has the *greatest* area and therefore receives the most rays. Dividing the circle into the same number of concentric rings, we find that the ring which get the longest exposure, that nearest the center, is the *smallest*, in area. In one case we have the *largest* areas exposed the *longest* time and in the other the *largest* areas exposed the *shortest* time. Take, for example, two vertical strips, the one nearest the middle having an area of 1 and exposure of 1, and another farther away having an area of $\frac{1}{2}$, and exposure of $\frac{1}{2}$. We have as the total illumination of the two strips, $1 + \frac{1}{4} = 1\frac{1}{4}$. Take two rings, the one nearest the center having an area of $\frac{1}{2}$ and exposure of 1, and the other farther away having an area of 1 and an exposure of $\frac{1}{2}$, and we have the total illumination expressed by $\frac{1}{2} + \frac{1}{2} = 1$. This simple illustration shows plainly why so great a difference exists between the two forms mentioned.

SQUARE ORIFICE OR "GREGG."

This shutter has two blades with square orifices. The blades move in two directions from the center along the line of the diagonals of the orifices (See Diagram 9A). In general principles it resembles the Bausch & Lomb shutter, opening, however, with a continually enlarging square instead of, as with the latter, a continually enlarging circle (See Diagram 9B). The blades, after reaching a full exposure, return to the



center again. It can, like the Bausch & Lomb, be set for any size of opening, acting, therefore, as does the latter, as a diaphragm as well as a shutter. At first glance this looks like a very effective form of opening, but an examination shows that it will not afford the illumination of Prosch, although giving more than the Bausch & Lomb. The square openings are effective until the corners reach the perimeter of the lens, after which those portions lying outside of it are valueless for purposes of illumination (See Diagram 9c.)

The utmost effective *area* that it can attain is that of the lens, the area of which is .7854, the area of the circumscribing square being 1. If the lens could be made square the shutter could attain to an illumination corresponding to its area of 1. Dividing the orifice into a number of successive squares until the perimeter of the circle is reached by the corners, dividing the remaining segments into several smaller ones and computing the areas of the various rectangular strips and the segments, and multiplying each by its average time of exposure and summing the products we obtain the total illumination as in previous cases. This is found to be .3021. It is claimed that

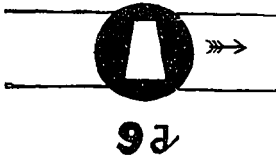
this shutter will give more illumination than the Prosch. It however gives but 67 per cent of it and gives even a little less than the drop with circular orifice. It gives more than the Bausch & Lomb and it can easily be explained why it should do so. An examination of Diagram 9c will plainly show this. We can see that the area of each square opening of the Gregg is greater than the inscribed circle representing the opening of the Bausch & Lomb, although each square and its inscribed circle *have an equal exposure*.

The proportion is as 1 : .7854. If we compare illuminations on this basis, that of the Bausch & Lomb being .2651, we have the proportion .7854 : 1 :: .2651 : .3375. This is greater than already found by direct calculation. We must take into account that each square of one orifice gets an illumination greater than the inscribed circle of the other. The square has an area about 27.3 per cent. greater than the circle. We must therefore add that percentage to the illumination of the Bausch & Lomb. This percentage is .0724 + which added to .2651 makes .3375 as found by the above proportion. As, however, a portion of the Gregg orifice, when fully open, lies outside of the lens circle, we must deduct the illumination of that part from the above. The area of this portion is .2146 and its average exposure .1645 +, making its illumination .0352 +. Deducting this from .3375, we have an illumination for the Gregg of .3023, which is within a very small fraction of the amount .3021 found by direct calculation, the difference being caused by not carrying out the decimals a sufficient number of spaces.

This shutter shows, on the part of the inventor, a lack of scientific knowledge or investigation of the principles involved shutter in construction. Had

he made his orifices move in the direction of the sides of his squares instead of along the diagonal, he would have had a shutter similar in principle to the Prosch instead of to the Bausch & Lomb, which would give in the same time an illumination exactly equal to the Prosch, or .4506, thus obtaining nearly 50 per cent. more illumination than he has by his erroneous and unscientific form.

I have not mentioned various absurd shapes of orifices intended to give a less amount of illumination to the sky than to the foreground. Even such a house as that of Morrison put out in connection with one of its lenses a shutter with an orifice like that should in Diagram 9D. This shutter is a drop, moving horizontally, and is in every respect contrary to correct principles. A point on the ground will send a ray to every point of the lens, top or bottom, and a point in the sky will do the same. An orifice like that shown will cut off as many ground rays



as it will sky rays, the result being but a general reduction in illumination. This absurd theory seems to have grown out of the idea that the rays from the ground all went through the bottom of the lens and the sky rays through the top of the lens. It is surprising that the maker of such excellent lenses should ever have presented to the public such a ridiculous instrument as this. Probably the public wanted it, and it was made to sell.

[To be continued.]



Each inhabitant of England uses 90 bricks a year.

The P. A. of A.

THROUGH the kindness of President Frank A. Place, we are able to present our readers with a picture of the 2nd Regiment Armory, situated on Curtis Street and Washington Boulevard, Chicago, where the meeting of the P. A. of A. is to be held in July next (18th to 21st inclusive). The meeting this year is called the Photographers' World's Fair Convention, and it will evidently prove to be such, as photographers from all parts of the world will be in attendance. We hope to see a large number of Canadian photographers present, and a goodly display made of Canadian work.

President Place writes as follows:

CHICAGO, May 29, 1893.

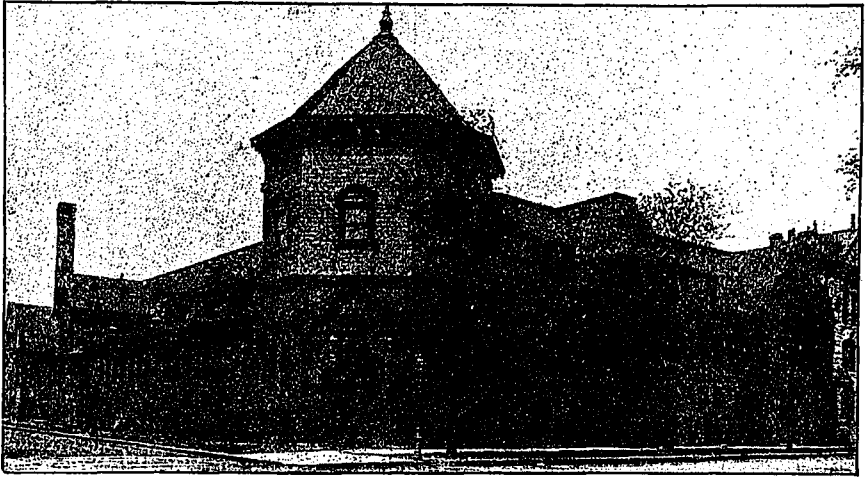
Editor Canadian Photographic Journal:

I mail to you to-day the cut of 2nd Regiment armory, situated on Curtis Street and Washington Boulevard, Chicago, where P. A. of A. Convention is to be held in July (18th to 21st inclusive). The prospect of attendance is very flattering, as the Treasurer writes me that more members have been added and more dues paid already, than any previous year since organization of of Association. Chicago's City Mayor, Carter H. Harrison, is to deliver the address of welcome.

Yours respectfully,

FRANK A. PLACE.

Secretary Adam Heimberg also writes us to say that he hopes to see a large delegation from Canada present, and that the Foreign delegation will be on hand, a number of whom are to read papers of great interest. Those who intend exhibiting should send their exhibits as early as possible.



2ND REGIMENT ARMORY, CURTIS ST. AND WASHINGTON BOULEVARD, CHICAGO

WHERE THE MEETING OF THE P. A. OF A. IS TO BE HELD, JULY 18TH TO 21ST, 1893

(Photo Society of Great Britain)

Photogravure ; or, Photographic Etching on Copper.

BY HERBERT DENISON.

(Continued from the May Number).

IN the early days of my work in this process I had considerable difficulty with the grounding of the plates owing to the deposit being irregular ; sometimes the deposit by its form reminded one of those experiments—common at conversaciones—a flat plate of steel sprinkled with sand, the sand arranging itself in varying patterns according to the vibration produced by drawing a violin bow along the edge of the plate. From this similarity I imagined that the uneven deposit of grain was the result of vibration, but I could not satisfy myself that such was indeed the case, because, upon laying the plate upon the nails with a pad of blotting paper beneath to stop the vibration I occasionally still got the same irregular deposit. I came to the conclusion eventually that the irregu-

larity was caused, perhaps, partially by vibration, but also partially by a certain dampness of the dust which caused the particles, perhaps, to attract one another, and so fall on the plate unevenly. Whatever might have been the cause, I have found that the difficulty has been almost entirely overcome by keeping the box containing the dust in a perfectly dry state, and so I call your attention to the importance of providing against dampness either in the dust or in the box. I may mention one remedy for unevenness of deposit in case any of you should meet with it ; I found that if I placed the copper to be grounded in the middle of another plate considerably larger, the unevenness generally disappears ; the uneven portion of the grain was always near the edge of the plate, and when this method was adopted the uneven deposit fell upon the underplate instead of on the plate being grounded.

When a satisfactory grain has been deposited upon the plate (and this can be ascertained by examination with a

magnifying glass) the next step is to fix that ground to the copper. To accomplish this we require an article known in the trade as a copperplate heater; it consists of a plate of iron about a quarter of an inch thick, somewhat larger than the plate to be heated; this is separated at its four corners on iron legs, and underneath the plate is a piece of gas pipe in ring form perforated to form a stove. This special piece of apparatus is not absolutely necessary but it is very convenient. A makeshift heater can be made by placing a similar plate of iron upon an ordinary circular gas stove; in fact, I have used this myself for a considerable time. The gas is lit under the heater, and when the plate has got hot all over, the copperplate is laid upon the sheet of paper, the ends of which have been turned up beyond the copperplate so as to allow of the plate being lifted up and the copper is then placed with the paper beneath it upon the heater and watched closely till the ground is observed first to become transparent and shortly afterwards to turn a darker colour and show an appearance of bloom upon the surface which is difficult to explain, but when once seen will easily afterwards be recognized. The plate must now be removed from the heat and allowed to cool spontaneously. If the plate is not heated sufficiently, then the ground has not attached itself, and therefore will offer no resistance to the mordant in etching the plate. And where the plate has been heated too much or kept hot too long the particles will run together and either prevent the mordant acting at all or will protect the copper in large dots instead of minute ones. In practice the important thing to observe is that the dust is properly attached to the plate, and this can be tested by applying a camel's hair brush

to one corner after the plate has cooled, and then examining the plate with the glass to see if any dust has been removed; the running together of the particles can only occur through carelessness. It is very convenient to ground several plates on the same evening, and I think the work is better done as one gets familiar with the work; when cold, the plates can be labelled on the back with particulars of the time given, etc., and be stored in a grooved box or be put away simply wrapped in a few thicknesses of tissue paper.

Last week I described to you the mode of printing the carbon resist which has to be developed on the copper, and we developed a trial resist upon an opal plate in order to judge if the exposure had been correct. The trial print having been found correct a second print is made having the usual safe edge. One of the developing dishes is filled with clean cold water and the grounded copperplate is immersed therein face upwards; the exposed tissue is also immersed in the water, taking care to remove all air bubbles, and when the inward curve of the tissue, which will appear on immersion, is seen to relax, the tissue is quickly arranged face downwards upon the copperplate in the desired position. The copperplate, with the tissue attached, is removed from the water and laid upon the squeegeeing board and squeegeed in both directions, beginning from the middle of the tissue (this is for the purpose of expelling any air or water from between tissue and plate). The plate, with the tissue attached, is now laid face downwards upon a pad of blotting paper and allowed to remain for about ten minutes to give the tissue an opportunity of attaching itself to the plate. After the lapse of ten minutes the tissue is ready for development

in the same way as I described last week; the plate is immersed in water at 95° Fahr., until the pigment is seen to ooze out from under the paper backing, and the paper is then raised from the pigment by inserting a finger-nail under one corner and gently lifting the paper up. (This is, of course, done under water.) The pigment is now gently laved with the water, until all the soluble gelatine has been washed away; adding, as may be necessary, a further quantity of hot water, or, if the developing dish is over a gas stove, turning on more heat. When development is complete (and if the exposure has been correct, this may be judged by the deepest shadows of the picture being represented by only the thinnest film of gelatine) the plate is removed from the developing dish and cooled by immersion in cold water.

The resist is now dried by flooding with methylated spirit, beginning with a mixture of half water and half spirit, and gradually adding spirit till all the water has been removed from the film. When the film is dry the margin of the copper must be protected with black varnish, taking care not to encroach upon the picture. The best way is to first of all draw a line all round, and just upon the edge of, the picture with a draughtsman's ruling pen charged with the black varnish, using for a ruler a steel straight-edge. As the gelatine film is very tender, great care must be exercised to prevent injury to it in ruling, therefore, it is as well to support the ruler above the plate by allowing it to rest at each end upon a plate somewhat thicker than the copper being ruled; the back of the plate and the edges must also be protected with varnish, and when the varnish is dry the plate is ready for the etching bath.

(To be continued.)

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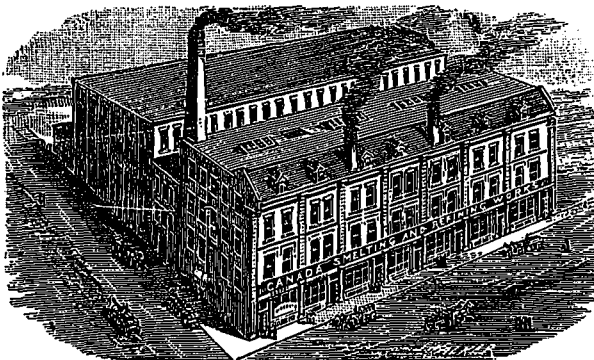
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