



PRINTS ON AMERICAN "ARISTO" PAPER.

PORTRAIT STUDY.

- BY -

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The Canadian Photographic Journal

DEVOTED TO THE INTERESTS OF THE

Professional and
Amateur Photographer

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E shall endeavor to send a copy of this, our convention number, to every photographer in Canada, subscriber or no. Its rather expensive, but we consider it will do the association some good to have all those who were not with us, either from good or poor reasons, read of the successful, harmonious and instructive meeting of 1892. If you are a member of the P.C.A., you should be proud of it. If you are not the best thing you can do for your own interests and the interests of those who pay you their good money and don't want work of the vintage of '74, is to settle it in your mind right now that you will "be there" next year. We have another reason for sending out all these many sample copies, not quite so philanthropic, we are afraid, as the first, but still generative of good to you, for no one can read a journal printed exclusively for their art or

trade, without deriving some benefit from it. It is that you may be reminded of the fact that you have a home journal asking for your support, and trying to deserve it. We want your subscription, we want you to suggest to someone else that they subscribe, we also want you to help make this journal interesting by telling other brothers in photography, through THE JOURNAL, anything of interest that you know of or that transpires in your locality. The more subscribers, the more interest taken, the better will be THE JOURNAL. Send us your subscription, and "we will do the rest."

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Not Intentional.

If there is any one rule we have tried to live up to more than another in the publication of THE JOURNAL, it is not to clip any article without giving full credit where it was due. In the matter of contributed articles, however, one can not always look up his entire exchange to see if the writer has appropriated anything from their columns. One of our most esteemed exchanges, the *American Journal of Photography*, in the

September number, takes us somewhat to task for not giving them credit for matter contained in a contributed article in our June issue, said to be taken from their pages. The article was sent to us by the writer—a leading photographer of Canada—as original matter, and so published, we having no idea of the writer using matter other than original. Knowing the writer as well as we do, we cannot but think that the omission by him of credit for any part of the article written by him, if such was due, was owing entirely to forgetfulness. We hope our Philadelphia contemporary will absolve us from any intensional “cribbing.”

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The P. A. C. Convention, Toronto,
1892.

THE Convention of the Photographers' Association of Canada for 1892, will go on record as having been the most satisfactory, from every standpoint, of any since the organization of the association in 1884.

While the attendance was not all that might have been expected, considering the brilliant array of prizes hung up for competition, and from the fact that the meeting was held in what must now be termed the city of stock houses, and that the Toronto Fair was in progress, thus enabling members to attend the convention, look through all the principal stock houses of Canada, which every photographer should do at least once a year, and take in the fair on the same trip, still it was fairly good and was made up by the earnest interest taken in the doings of the convention by those who did attend.

The work displayed at the convention was worthy of any country, and Canada may well feel proud of having among her loyal subjects artists capable of producing work of such general excellent quality as that exhibited upon

the walls of Victoria Hall at the convention of the P. A. C. of 1892.

The first business session was called to order Thursday, Sept. 8th, at 10.25, in Victoria Hall, with President C. S. Cochran, of Hamilton, in the chair.

The president warmly welcomed the attending delegates in an interesting address, at the close of which he reported that the committee appointed at last year's convention had interviewed a number of members of Parliament on the subject of reduced postage on photographs, but each member interviewed had expressed the opinion that the Government was desirous of keeping the postage rate the same as in the United States.

The minutes of the last meeting were read by Secretary Poole and approved.

The secretary was instructed to add to the minutes of last year the prizes offered by the Anderson, Robinson & Co.

The motion of Mr. C. E. Hopkins, seconded by Mr. Jackson, That appointment of judges be left in the hands of the Executive Committee, was carried.

A motion by Mr. Jackson, seconded by Mr. Barke, That the matter of preparing a set of rules for use in the studio be referred to a special committee, was carried, and Messrs. Clark, Jackson and Edy were appointed as committee.

As to the matter of a question box, it was moved by Mr. Edy, seconded by Mr. Craig, That questions be placed in box provided, and the Executive Committee refer them to persons considered competent to answer them the following morning. Motion carried.

Crayon fakes and ticket rackets were then thoroughly discussed by Messrs. Still, Craig, Walker, Clarke and others. Mr. Still moved that a committee be appointed to report some means to overcome and nullify the efforts of the perpetrators of crayon frauds, etc. This motion, seconded by Mr. Lord, was carried, the following being the committee appointed: Messrs. Still, Pitt-away, Clark, Jackson, Edy.

A motion was made and carried that members should have the privilege of bringing in non-photographic friends.

The meeting then adjourned until 3 p. m.

AFTERNOON SESSION.

The afternoon session being called to order at 3 o'clock,

Mr. C. E. Hopkins, of Brooklyn, N. Y., the manufacturer of Omega paper, was called on for a fifteen-minute talk, and responded with a very interesting description of his new "Vici" paper.

Secretary Poole then read a contributed paper from R. D. Bayley, of Battle Creek, Mich., the first president and the instigator of the association, on "Light and Shade," which was interesting and instructive.

LIGHT AND SHADE.

By. R. D. BAYLEY.

In the first place, brethren, allow me utterly to disclaim all idea of trying to teach those who already know more than I do. To you, gentlemen of the art photographic who have for years known and practised all I am about to write, I must apologize for occupying your time. For those, however, who, like myself, are merely humble learners, I wish to throw out a few hints that may be found useful.

I have chosen for a subject "Light and Shade on the Face." Have you not often looked at a beautiful photograph and wondered how it was made? I have. Such exquisite softness and brilliancy combined, how was it ever obtained? And then turning to our own every-day productions, we have decided that it must be "in the subject," or in something else that *we* could not help.

Now, suppose for a change we throw the blame on ourselves, and admit that what we see is the result of careful, skilful work.

In what does the skill consist?

In lighting.

In timing.

In developing.

I want to speak a few words on the first of these three subjects.

You will find one of two prominent evils in most ordinary photographs. Either they are flat, uninteresting-looking things, or else they are harsh, black and white. I have made both

kinds, and for the life of me I can't tell which is the worst.

Let us in imagination work together for a few minutes.

Place your sitter under the light and make all the necessary arrangements; expose a plate, and we will go in the dark room together and develop. The high lights begin to appear; gradually all the lighted side of the face comes up, but the shadow side hangs fire. "Ah!" we say, "*under-exposure.*"

Now, one of the first principles hammered into us was, *expose for the shadows, let the lights take care of themselves.*

So we expose another plate on our victim and lengthen the time. Once more we develop. The lights come out quickly, followed in due course by the shadows. We develop till all detail is out and the negative is dense enough, and then let our sitter go. And yet, strange to say, the photograph is not a good one. The shadows are out all right, but how about the high lights? They are blacked up—no detail, no snap, no life.

When the prints are made they show one of two evils—either the lights have no life, or the shadows are black as ink, perhaps both.

We are very apt to look on such a print and say: "The negative was under-exposed, or it was developed too far."

So next time we try to cure the evil. First we don't develop so far, and what do we get? A mean, thin, under-done negative, that will give weak red or grey prints.

Next time we vow we *will* have softness, and so we double the exposure, and we get a picture that would make *the very angels weep*, it is so flat and muddy, so bad, in fact, that we fly back to the chalk and blacking as a great relief.

What is the matter? A very simple thing. There is too much contrast in the lighting.

The lights and shadows do not photograph properly in the same time, and you might keep on varying the exposure for ever and still you would not obtain a good negative.

Let me ask you to separate that face into different parts, and we shall understand each other better.

First, then, here is the forehead and nose, and lighted cheek bone, in full strong light. How much time will they require to make a properly exposed negative?

Let us say two seconds and a half. All right. Now for the deep shadows under the eyebrows, and lower half of shadow cheek. How much time do we need for these to get rich shadows full of detail? *Oh, about six or seven seconds.* Ah, now we have it. If we can expose part of a plate two and a half seconds and part seven seconds, we can get a correctly exposed negative, but unfortunately we can't do that.

What can we do? Average it and give about five seconds to the whole plate, and what do we get? Raw under-done shadows and dense blacked-up high lights.

I could show you lots of such pictures in *my* gallery, *not* in yours of course.

What then must we do to get good effects, to light the face that every part of it will be correctly exposed at the same time? The lights must be so toned down that they will stand, let us say, five seconds exposure without being in the least over-timed, while the shadows must be so lighted up that they will be fully exposed in the same time.

It matters not in the least how this is accomplished. Use any kind of screens that will effect your object. But train the eye to see when the lights and shadows bear a proper relation to one another, and to be able to give the correct time. If you can do this, you will be a happy man, and unless your posing is horrible you will get out some fine work. Now, let me tell you honestly, I can't do this, but I try. But the men who have made themselves famous, the great men in photography, are those who have learned this lesson most thoroughly and practise it most constantly.

Place then this motto before you :
"EACH PART OF THE FACE MUST BE CORRECTLY TIMED." Then the sha-

dows will have detail and the high-lights crispness and snap.

It was moved and seconded that a vote of thanks be tendered Mr. Bayley for his paper.

Mr. J. F. Edgeworth, the well-known genial representative of G. Cramer Dry Plate Co., of St. Louis, was called upon by the president to address the meeting, if possible, along the same line as touched by Mr. Bayley. Mr. Edgeworth, who seems perfectly at home on any subject connected with photography, responded, saying that on returning to the convention after an absence of three years, he found members, perhaps, fewer, but work shown perceptibly improved. He advocated plenty of light, well handled, most photographers being afraid to use their light, and tried to make their pictures in the dark room, instead of under the skylight. He did not like the usual white-cloth screen, one more opaque being much better. (Several of our operators have found this point exceedingly well taken, and are busy putting a layer of brown paper over their head screen.)

Mr. Edgeworth having seductively worked the Cramer plate into his address in a very praiseworthy way, then spoke instructively of developing for several minutes. His interesting address led to a motion being made by Secretary Poole, seconded by Mr. Lee, and carried, That Mr. Edgeworth be asked to meet the members of the convention at J. C. Walker's studio at 9 o'clock the following morning to give a practical demonstration of lighting and developing.

Mr. Geo. Knowlton, of Montreal, in response to an invitation from President Cochran, gave the members a few new points about the Stanley plate.

Mr. C. A. Lee, of Listowel, then entertained the members with some very good advice on printing, and said that he would never use a hot hypophosphite solution because heat will force chemical action and forced results will follow. Mr. Poole asked several gentlemen to give the strength of the "hypo" solution used in fixing. He said that he was sure there would be as many different answers as there were men in



POSING DOLLY.

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the room, and he was right, for each speaker gave a different strength.

The president, in the course of a few remarks, wanted to know why there were not more photographers present, not only from the country, but also from the city. He asked what was to be done to bring them in, and wanted this convention to discuss this and other questions which he mentioned, among which was the proposition to have a Board of Examiners and issue a diploma to those who passed before the board. He then called upon Mr. Cunningham, of Hamilton, who read a paper prepared upon this subject, treating the question in a most able manner.

HELP.

BY A. M. CUNNINGHAM.

A few months ago I chanced to meet at a railroad depot a member of the Executive Committee of this association, and in conversation with him I was informed that he had great trouble in getting help. He said: "I can get lots of help, but it is no good." His train moved off, but his remark was left behind, and I commenced to solve the problem—How can photographers get good help?

But before we direct our attention to this, let us glance at a few of the reasons why help generally is poor. The most striking, to my mind at least, are poor employers, poor pay, and poor rules governing apprentices. Let us deal with them in order:

First, poor employers. Seldom does the pupil excel the teacher, and how very few of our galleries can be considered schools of photography. Why, I know a photographer, who boasts an experience of over twenty years, who insists that sal soda is the developing agent in the developer; and yet that man usually has two or three "learning the business." Such incompetent employers as these are largely responsible for the poor help, because a young man who has served a year or two under such an instructor is hardly likely to give satisfaction in his next situation, which, as a matter of fact, he accepts as a practical photographer.

As to the poor pay I will say nothing. I only trust that all employers present will do their duty in this respect; but I ask you if the average wages paid is sufficient to tempt a young man of average ability to adopt photography as a profession.

Now as to rules governing apprentices. I believe every gallery makes its own. Now, I maintain that there should be something done in this line to protect not only photographers, but apprentices, from humbug. Cases are not by any means rare where young men have paid \$50 to \$100 to photographers, who have undertaken to learn them "the business" in three or six months, and in the majority of such cases the party undertaking to do this could not hold a position in an average gallery at \$8 a week. It is from such sources as these that poor help and cheap opposition spring.

Now, how can we best remedy these evils? I believe it lies in the hands of this association, and the means are educational. In the first place bring your help to the conventions, where they can witness demonstrations and hear discussions on their every-day work; where they can see the best work from other galleries, and compare it with their own productions. There are lessons to be learned from everybody, even though it should be to avoid the mistakes into which your neighbor has fallen.

In glancing over our conventions one would almost think that they were alone for the employer, who attends annually, while his help is left at home to keep things running as best they may, in the full assurance that the "boss" will be home in a day or two and tell them how much better the work at the convention was than theirs. Now, if it is absolutely necessary that someone stay at home, try for one year how it works to send your help and stay home yourself.

But in case you should do this next year let me give you a hint. Arrange before you close this convention that the next one shall be less of a fair and more of a convention. Instead of centring the interest in the prize list (which is foreign altogether to a con-

vention), hold out as an inducement practical talks by practical men on practical subjects. Let them be specialists in their line, and men whose word will have weight. I have no hesitancy in saying I learned more in one hour last fall, under the skylight, with a master in posing and lighting, than I ever learned in all the conventions I have attended.

But I consider that there is a something that would be more beneficial to all classes than even this. I have a scheme to propose that is open to your discussion, which relates to the governing of apprentices, and is briefly this (the details can be put in at some future time):

Apply to the Government for a charter permitting you to grant diplomas. Let the Executive Committee form themselves into a Board of Examiners, and grant certificates to all who merit them. Then in future, when a young man enters a gallery as an apprentice (the head of which is a member of this association), the secretary shall be advised of such proceeding, and shall make due record of the same. Let him serve, say three years, after which time he shall come before the board for examination. If he can pass it satisfactorily, grant him his diploma with the number of marks he is entitled to in each branch of the profession. Then you will have some standard set up, which shall be a means of protection to employer and employee alike; for when a workman makes application for a position, whether as operator, retoucher or printer, he can state what his standing is, and the employer knows what he is getting, whereas at the present time it is only possible to judge the ability of a workman after you have employed him for a few weeks.

Then too, you, will have raised the profession of photography a little higher in the scale at least, and the man who can hang his diploma on the wall will be above the cheap John class, and his work will show it.

But says some one, all this would cost money, and we have none in the treasury. Well, we have some gen-

erous souls among us, who are ever ready to give of their dollars, in the way of prizes, who could doubtless be prevailed upon to let prizes go for a year or two towards this end, as they in time would be rewarded by seeing their productions handled in a more intelligent manner, and photography all over the country have an upward tendency.

Who will aid us, in thus elevating our beloved profession of photography?

Mr. Walker made some remarks as to the necessity of better organization and management. He advocated the running of the convention in the future in a more business-like way.

The subject of better organization and the future government of the society having been discussed at some length, it was moved by Mr. Cunningham, seconded by Mr. Knowlton, and carried, That the Executive Committee for 1893 be instructed to prepare constitution and by-laws to govern the association, and also to recommend what steps should be taken for incorporation and for governing the matter of apprenticeship.

Mr. Lord moved that the paper contributed by Mr. Cunningham be printed by the association and copies sent to the photographers of Canada, accompanied by a printed request for an expression of their sentiments regarding it. Seconded by Mr. Brockenshire, and carried.

On motion of President Cochran, seconded by Mr. Knowlton, and carried unanimously by a standing vote, the secretary was instructed to send a letter of condolence to the widow of the late S. J. Dixon, and that it be suitably engrossed and spread upon the minutes of the association.

Convention then adjourned until 11 o'clock following morning.

THURSDAY EVENING

was given over to social enjoyment and the exhibition was thrown open to lady and gentleman friends of the members. Miss Washington recited Tennyson's "Dora," after which the remainder of the evening was spent

in viewing the beautiful exhibits, the results of the photographer's art.

FRIDAY, SEPT. 9TH.

After witnessing a very successful demonstration on lighting subjects and the developing of Cramer plates by Mr. J. F. Edgeworth at J. C. Walker's gallery early in the morning, the morning meeting was called to order at 11 o'clock.

The question box being opened disclosed several question papers, which were discussed satisfactorily.

The following report was made by Committee on Frauds and Fakirs :

To the Photographic Association of Canada :

GENTLEMEN,—We, your committee, to whom was referred matter of crayon frauds and ticket fakes, have investigated the matter to some extent, and would recommend that it be referred to a committee of one with power to engage a lawyer to investigate the statutes, and have them so amended, if possible, to enable county councils to impose a license on all picture pedlars, and that this association bear the expense, not to exceed twenty-five dollars, and that this association pass a resolution to be used to induce the Government to pass the necessary legislation, all of which is respectfully submitted, and that the secretary draft such a resolution to be so used.

(Signed) WM. STILL,
E. L. EDY,
A. G. PITTAWAY,
J. C. ANDERSON,
W. H. H. CLARK.

On motion, seconded and carried, this report was adopted.

Also moved and carried, That amount of expense be left with Executive Committee and the committee of one to determine.

The Committee on Rules to Govern Studios then reported as follows :

To the P. A. of C. :

GENTLEMEN,—Your committee respectfully submit the following rules for studio government of the members of

the Photographers' Association of Canada.

(Signed) W. H. H. CLARK,
E. L. EDY,
J. F. JACKSON.

RULES OF THIS STUDIO.

1. The full amount or a deposit is required at time or sitting.

Payment in advance is required on all duplicate orders.

No deviation from these rules.

2. An extra charge will be made on all re-sittings where there are changes of toilet.

3. An extra charge will be made when photos are ordered from more than one negative.

4. Appointments have preference.

The report of this committee being adopted, it was moved and carried that the rules be printed under the supervision of the association, and that each member requiring copies should pay for them at the rate of two for 25c.

The members present paid for two copies each in advance. Those not in attendance should send 25c. to Secretary Poole, St. Catharines, at once.

The question of the location for holding the next annual meeting was next discussed at some length, during which discussion Mr. J. C. Edgeworth extended a semi-official invitation from the president of the American Association to hold the convention of 1893 in connection with that of the American Association in Chicago.

The cities nominated were Ottawa, Toronto, Chicago. Balloting on these three resulted in Toronto being chosen—a wise choice, everything being considered.

Election of officers for the coming year resulted as follows :

J. C. Walker, of Toronto, president. On motion President Walker's election was made unanimous.

The retiring president, Mr. Cochran, on retiring from the important office he has filled so satisfactorily, introduced President-elect J. C. Walker in a few well-chosen words.

The newly elected president, in accepting office, spoke feelingly of the honor conferred upon him, and assured

the members that he would use every effort to further the interests of the association.

The convention then proceeded to the election of three vice-presidents. A ballot being taken on the eight nominations resulted in Messrs. Cunningham (Hamilton), Cooper (London), and Jarvis (Ottawa) being chosen.

A hearty vote retained Secretary Poole in the position of secretary of the association.

These officers to constitute the Executive Committee.

Mr. Wm. Still (Orangeville) was then, on motion, appointed as the committee of one, under the supervision of the Executive Committee, to deal with the "fakers."

On motion of C. S. Cochran, seconded by C. E. Hopkins, it was decided, after some discussion, that 25 per cent. of the amount offered for prizes for 1893 will be used for general purposes by the convention—to be used probably in procuring the attendance of demonstrators, or in entertaining the visiting members, and 75 per cent. to be given as prizes in the usual way.

Mr. Hopkins then moved that first prize winners of any one year be barred from exhibiting for prizes in the same class the following year. Seconded by Mr. Baikie, and carried.

The report of the Committee of Awards was read as follows, and, on motion, adopted:

REPORT OF COMMITTEE ON AWARDS.

To the President and Members of the Photographers' Association of Canada:

Your Committee on Awards beg leave to submit the following report. While it is an arduous and almost thankless task, we have endeavored to be just, as near as possible for human beings to be, and hope the members, especially those who have had their hopes somewhat crushed, will at least give the committee credit of dealing according to the dictates of their conscience in making this award, and let us down easy.

There were those classes in which there were but one competitor each, who, as a matter of course, receive the

awards in those classes. The committee are well pleased to note the general excellence of the work on exhibition, and it is to be hoped that this improvement will go onward and upward until the Dominion can boast of an association of photographers second to none in the world.

The committee desire to make special mention of an enlargement by our secretary, Mr. E. Poole, of a steamboat in motion from a very small hand camera negative.

(Signed) W. H. H. CLARK,
A. G. PITTAWAY,
A. E. GENTZEL,

LIST OF PRIZE WINNERS.

Stanley Dry Plate Co., Montreal, per Geo. Knowlton.—For cities—1st, cup, \$50, C. S. Cochran, Hamilton; 2nd, magazine camera, \$30, Kellie & Co., Montreal. For towns—1st, \$25 cash, Murray & Son, Brockville; 2nd, \$20 cash, T. Baikie, Chatham. On Stanley plates.

Mr. Hopkins, formerly Bradfisch & Hopkins.—Photos printed on Omega paper—1st, \$35, Murray & Son, Brockville; 2nd, \$25, Wm. Still, Orangeville; 3rd, \$20, T. Baikie, Chatham. On any plate.

Anderson, Robinson & Co., of the Eagle and Star Dry Plates.—1st, trophy (open to all), \$100, Edy Bros., London; 2nd, places under 10,000, \$20 cash, J. C. Walker, Toronto; 3rd, \$10 cash, Park Bros., Toronto. On Eagle or Star Plates, Canadian makes. Exhibits in each case to be not less than 24 cabinets, and not less than 10 other sizes 8 x 10 or larger.

Mr. Hopkins.—Views on Omega paper—1st, \$15, Wm. Still, Orangeville; 2nd, \$10, A. Barrett, Cannington. Each exhibit six cabinets or smaller than 8 x 10; six 8 x 10 or larger.

Stanley Dry Plate Co.—1st, retouching, six cabinet busts and six full or $\frac{3}{4}$ figures, any plate, \$15, Thos. Leathesdale; 2nd, printing, twelve cabinets (variety), any plate, \$10, Miss Curtis.

Mulholland & Sharpe.—Illustration of Tennyson's poem "Dora"—1st, \$30, F. Lyonde, Hamilton; 2nd, \$20, no one competing. Set of three photos, 8 x 10 or larger.

CANADIAN PHOTOGRAPHIC JOURNAL.—1st, excellence of prints in any process other than albumen or aristo (gelatino-chloridat,) any plate, \$20, J. C. Walker, Toronto; 2nd, one year's subscription to THE CANADIAN PHOTOGRAPHIC JOURNAL, W. J. T. Townsend, Hamilton.

\$25 association funds.—Best enlargement, not less than 16 x 20, any kind except albumen paper, must be made by exhibitor and a plain print except ordinary spotting, J. C. Walker, Toronto.

No one exhibiting on Star and Eagle plates from places under 10,000, the

prizes were awarded to exhibitors from cities.

In addition to the above the Stanley Dry Plate Co. presented Murray & Son with a gold medal for excellence of views exhibited, made on the Stanley plate.

All business relating to the convention of 1892 having been finished, a hearty vote of thanks was tendered the judges; also to the visitors, Mr. Edgeworth and Mr. and Mrs. Clark; to the the Ilford Co. of London for any exhibitor using their goods, and to the St. Louis & Canadian, and THE CANADIAN PHOTOGRAPHIC JOURNAL and the city press.

Just before the close of the meeting Mr. C. E. Hopkins offered \$100 as prize money to be competed for in 1893.

Mr. Geo. Knowlton then informed the members that the Stanley Dry Plate Co. would raise their donation from \$100 to \$250 for next year.

J. C. Anderson, of the Star and Eagle dry plates, then created considerable amusement by saying that his firm was not to be out-done by Mr. Knowlton, and that he would even go him better and make his donation for next year two hundred and fifty dollars and *ten cents*.

The meeting was then declared adjourned until called together by the president.

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THE EXHIBITS.

A few words regarding the different exhibits may be of interest to those who were not able to attend. On entering the hall, the first exhibit to attract the attention was that of J. C. Walker, of Toronto, consisting of an attractive display of portraiture and larger work on Star and Eagle plates, a first prize frame of bromide prints and also a first prize of bromide enlargements, all exceedingly well arranged.

Next to Mr. Walker was Murray & Son, of Brockville, with a large and interesting display of view work, so good, indeed, that a special gold medal was awarded them. They also showed a collection of cabinet work, showing a commendable effort for new and

stylish effects in portraiture. This display was on Stanley Plates and Omega paper.

The gallery of Mr. Baikie, of Chatham, was well represented on the next space, also on Stanley plate and Omega paper, and was well worthy of the prizes taken.

STAR AND EAGLE PLATES.

On the eastern side of the hall, and near the centre, was the exhibit of Messrs. Anderson, Robinson & Co., of Toronto and Hamilton, manufacturers of the Eagle and the Star. In the centre of this display a brilliant star shone out, in the spaces of which was tastefully arranged a collection of cabinet photographs from the studio of Mr. J. Fraser Bryce, of Toronto, who is now a user and staunch advocate of Star plates. At either end, handsomely mounted on easels, was a magnificent head, 17 x 20, by the same artist, which were greatly admired both as showing the skill of the photographer and the superb qualities of the plates. Other spaces were filled in with collections from Messrs. Marshall & Lyon, of Guelph, and other contributors, attracting a great deal of attention.

As this firm has been less than one year before the public as dry plate manufacturers, they were in consequence handicapped in their display, and were obliged to rely upon the users of the plates to sustain their reputation, which was nobly done in the exhibits of Messrs. Edy Bros., London; W. J. Townsend, Hamilton (whose tasteful display deserves special mention); J. C. Walker and Park Bros., Toronto, and Elliot & Co., St. Thomas.

Messrs. Edy Bros., of London, carried off the much-coveted "\$100 Star and Eagle trophy," a magnificent Columbian piano lamp, the highest prize awarded by the association.

There being no exhibits on Star or Eagle plates from places under 10,000 population, Mr. Anderson generously allowed the prizes of \$20 and \$10 in gold to go to the other exhibits in regular order as second and third prizes. J. C. Walker took second and Park Bros. third.

Mr. Frederick Lyonde, of Hamilton, came next with some very attractive and well-finished work, telling at a glance the reason of this popular young gentlemen's growing favor with the people around Hamilton. Mr. Lyonde deserves credit for his pluck in attempting the difficult task of illustrating the poem "Dora." His was the only illustrative pictures shown and were very creditable, showing him to have grasped the strong situations in the poem in a masterful manner. His work was on the Star plates.

Mr. A. Barrett, of Cannington, came next with a display of all the babies in his section of the country, and all done in a manner to win the hearts of the most critical mothers. In the centre of the display was a small motor of Mr. Barrett's own invention, which revolved a disc covered with babies, and also carried the "On, Stanley, on!" trade mark of the plates he uses.

Mr. Poole, of St. Catharines, although not competing for any of the prizes, had a very neat display of work. Anything Mr. Poole does is done well and his display showed the same careful attention to every detail that characterizes all work turned out from his gallery. An enlargement of a steamboat in motion, enlarged from a small, negative was particularly admired.

Mr. Topley was also represented by some large heads, splendidly done. We also notice some good things from S. J. Jarvis, Ottawa; Querry Bros. and Park Bros., of Toronto; A. G. Walford of Montreal. Of the exhibits of C. S. Cochran, of Hamilton, and Edy Bros., of London, which occupied the two next spaces, we might write pages, but doubt if it would carry as much praise as by simply saying, that the work exhibited was of high quality, always a feature of the photographic productions of these gentlemen, and so good that each took one of the two principal prizes—Edy Bros. the lamp of the Star and Eagle plate, and Mr. Cochran the water set of the Stanley plate.

Kellie & Co., who made their first appearance as exhibitors this year, created a very favorable impression

with the quality of work displayed, and carried off one of the second prizes on Stanley plates. We predict that they will be found formidable rivals of next year.

The display of W. J. T. Townsend, of Hamilton, was, perhaps, the most handsomely mounted of any, and they deserve great credit for the pains taken in its arrangement. The general quality of the work was very good. The bromide prints of Mr. Townsend took the second prize.

Mr. W. Bogart, late of Newmarket, showed some exceedingly interesting southern views.

Park Bros. came next with a display not large, but good. They captured one of the prizes on the Star plate.

R. Elliott, of St. Thomas, exhibited some pleasing platinum prints, and J. A. Lord, Uxbridge, showed some good work.

This, if we except the displays carried in the pockets of a number of the members, comprised as fine a showing of Canadian photographic work as was ever shown in Canada, and one that could not fail to benefit the observer.

THE CRAMER EXHIBIT.

In the middle of the floor was the exhibit of the Cramer plate, the only foreign plate exhibiting. It was in the hands of our well-known friend, J. F. Edgeworth, who evidently would rather talk Cramer plate than eat. The display consisted of some beautiful specimens of large work by Edean, of Cleveland, showing particularly well the peculiar quality usually found in the Cramer plate, and two very striking photos representing night and morning done by Harrison & Coover, of Chicago. There were also shown work by Bryce, of Toronto, Dana, of New York, Autin & Philbrick, of Detroit, and Frank Place, of Chicago. Such a display of unvaried good results obtained on this plate by so many different photographers shows conclusively that it is the plate and not the man.

There were also a number of 18 x 22 landscapes of the World's Fair city by Stein & Rasch made on the Isochromatic plates of this firm, and showing

remarkably well their adaptability for portraying color values, and, Mr. Edgeworth assures us, are especially adapted for view work when smoky. As they are not so sensitive to blue as to yellow rays, they convert the blue atmosphere to yellow, and in consequence do away with smoky effects. Mr. Edgeworth also states that the Cramer is now the easiest worked plate in America. The only difficulty he finds is that photographers in using his plate use too weak a light, a light not having sufficient volume, and then try to bring up in development what they thus lose. Mr. Edgeworth's genial ways and entertaining talks and demonstrations won him and his plate many new friends.

Passing to the display of Stanley Dry Plate Co. (Montreal) which occupies one-half of the south wall, we find it comprises a very strikingly arranged collection of the work done on this popular plate, representative photographers of Canada, especially well arranged. It is hard to pick out any "best" in this display, but we notice as particularly good some view work of Fort Qu'Appelle and vicinity, by Steel & Wing, of Winnipeg, which took first prize at the Winnipeg Provincial Exhibition, that for depth of focus and crispness in detail, excel anything seen lately.

Notman & Son are represented by some exceptionally good snap shots of steamers on the St. Lawrence Rapids, portraiture, and their unequalled large views of scenery along the C. P. R.

Murray & Son contributed some of their noted views of the Thousand Islands, and C. S. Cochran added some views of Hamilton Beach and portraiture of the same quality as won him first prize on the Stanley plate in his own display.

Mr. Knowlton had his display most artistically displayed, a feature of it being the name "Stanley," in big letters about three feet high, made of portraits mounted on round cards, the pictures for each letter being work of a different artist. C. S. Cochran supplied the S.; Toplay, of Ottawa, the T; Archambault, of Montreal, the A; Notman & Son, the N.; Lapres & La-

verque, the L.; Kellie & Co., the E and Johnston of Picton, the Y.

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CONVENTION NOTES.

Quite a number of ladies graced the the convention with their presence. Among them we noticed Mrs. Lyonde, of Hamilton, who is still a "blushing bride," and as "fair to look upon" as "Dora"; Mrs. Pittaway, of Ottawa; Mrs. Briggs, of Smith's Falls; Mrs. J. C. Walker, wife of our newly elected president, Mrs. J. C. Anderson and Mrs. S. J. Dixon, of Toronto; Mrs. Clark, of St. Louis, Mo.

.....

Those of the trade having good negatives from which they wish bromide enlargements made that will be permanent and of high quality of workmanship should address J. C. Walker, of Toronto who took the association first prize for this class of work at the late convention.

.....

That the P. A. C. is gradually going ahead is clearly shown by a few figures read by Secretary Poole, during the last session. The secretary said,—at the meeting of 1890, there was \$9.72 balance in the treasury and \$105.00 was taken in as dues.

.....

There were more *pools* than Secretary Poole in the room during the election of officers, and some one might have walked home had the balloting been on *each* nominee.

.....

We had the pleasure of shaking hands with Mr. W. Langdale, of Ayton, the oldest photographer in Canada, being seventy-two years of age.

.....

With six hundred dollars already subscribed for next year and the end not yet, it looks as though '93 would be a "stunner."

.....

At the meeting of 1891 there was \$36.90 remaining in the treasury, and

\$116 was taken for dues, and for this year, while of course no official figures can be given yet, still it is known that it will be better than the preceding years. We think the members and photographers in general would like to see an official statement of the standing of the association at the present time, and we hope the secretary will furnish us with a statement of the affairs of the association. Its publication in its present satisfactory condition would certainly have a good effect on the attendance next year.

.....

Mr. Edgeworth will return home a much-named man, the city press have had him almost every one except President Harrison, but "a rose by any other name," etc.

.....

Some of the pictures shown would have appeared to better advantage had they been mounted on mounts more harmonious in color with the tone of the photographs.

.....

Next year every member entering the hall should be searched for pocket exhibits. Any found, to be tacked up side down.

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A. E. Genzel, a photographer of Halifax, N. S., was in attendance, coming all the way to Toronto for that purpose.

.....

The stock houses all freshened up a bit in honor of the convention and were kept busy booking orders.

.....

It was a case of "Oh! what a difference in the morning" with some of the younger members.

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Every one voted the meeting a big success and Toronto a delightful city.

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Messrs. Mulholland & Sharpe tell us that considerable interest is being taken in their monthly column of bargains, most any day bringing an order for some of the "plums" advertised in it.

The Pleasure of Experimenting.

IN "A Word to the Wise Amateur" in the August number of THE CANADIAN PHOTOGRAPHIC JOURNAL, I promised to have a chat with the amateur of an experimenting turn in a future number, and think I cannot do better than get it off my mind now. But I feel loath to leave the picture-loving class without an additional word or two.

But first let me correct one error that slipped into the last article. In speaking of the experimentalist, I meant to say that he *rarely* prints from his negatives, but omitted to notice in the proof that either I had written or the printer made it "really," and so made the sentence meaningless.

To what I said before, then, I wish to add, that he must not, like a bee flying from flower to flower, give a willing ear to all that he reads in the journals, or attribute in any degree the success of some of his friends to the use of any particular formula, or the employment of any special brand of plate. He should choose any particular one of either, especially one the uniform supply of which he can calculate on, and stick to it. Stick to it until he has fully mastered all its peculiarities, and after that, like a constant lover, stick to it still. Just as "a rolling stone gathers no moss," so the picture-maker who wanders from plate to plate, and from formula to formula, will make no pictures, or at least none worthy of the name.

With the experimentally inclined amateur it is, or should be, altogether different. He is more interested in the *modus operandi* than in its result, and a fact once firmly established ceases to interest him. While he may admire a picture as a work of art, and a thing of

beauty, he looks beyond that and sees in it the result of many and wonderful arrangements and re-arrangements of molecular matter, and tries to trace those changes step by step from the inception to the finish. He is the very opposite of him of whom the poet of the English Lakes wrote—

“A primrose by the river's brim,
A yellow primrose was to him;
And it was nothing more,”

and, although he cannot hope to experience the delight of Daguerre when accident showed him mercurial development, or of Talbot at the production of the first negative and print therefrom by his reasoned-out calotype; or even of the many lesser lights who followed in their trail, yet, if properly equipped, experimental work will give a degree of pleasure unknown to the mere picture-maker, and the hope of being able to add another stone to the cairn will make the dark room his happy hunting ground, and every operation therein a labor of love.

But, as indicated in the last paragraph, the amateur who would enter these sacred portals, must come properly equipped, and of what that equipment must consist is the *raison d'être* of this article. The successful experimentalist must know all that has been done before; not in the little knowledge which is a dangerous thing-way, as too often leads its possessors to the patent office, only to throw away their money on that which is little or no value, or that has been public property long before; but know it thoroughly in all its bearings. Without being a scientist in the true sense of the term, he must know enough of chemistry to fully understand the actions and re-actions of the material employed, and to theorize and speculate on those that are still

under a cloud. His knowledge of optics must be sufficient to enable him to classify the ever increasing number of lenses that come into the market; to realize the abilities and limitations of each group, and to trace the passage of the rays from the various points of the object through the various and varied curved components of the lens to the sensitive film.

Just how the light acts on the silver bromide he cannot yet learn from the writings of others, but he should know all that has been said about it, and by keeping his eye open to the fors and againsts—both the chemical and the mechanical theories—he will be in a position to locate whatever items of evidence he may come across.

He must also have clear notions of the theory of development, not being content with the generally accepted statements that pyro, or any of the more recently introduced oxidizers, are the developers, and soda, or any other of the other alkalies the accelerators; but know *how* such oxidizer and accelerator do their work. He must learn to look on the silver bromide that has been affected by light as in a *shaky* state, ready to give up its bromine to any suitable element, and that in ordinary development it finds that in hydrogen liberated by the decomposition of water. It is in this that the oxidizer gets in its work. Pyro, say, in the presence of an alkali, has an affinity strong enough to decompose water, and thus supply the necessary hydrogen; and the greater the degree of alkalinity the more active the decomposition. But he must bear in mind another fact. Nature never wastes her energy; never un-makes without making. The metallic silver deposited by the abstraction of the bromine is a secondary considera-

tion, although in development the primary object. The hydrogen has mainly in view the formation of the hydrobromic acid, and as this is a restainer powerful enough to stop further action, the alkali serves another purpose, that of uniting with it and forming the much less restraining alkaline bromide, sodium, ammonium, or potassium, according to the alkali employed.

Fixing, too, should be regarded as something more than a mere immersion for a given time in a solution of hypo; as from an imperfect knowledge of that operation more fading has occurred than from all other causes. It is not enough to know that the first step is the formation of the insoluble silver hyposulphite and the second the solution of that in hypo. The instability of hypo in the presence of acid; the liberation of sulphur alumina, and the formation of sulphuric and sulphurous acids, and potassium sulphate on its mixture with alum must ever be kept in mind, so that the advice too often given by good plate makers but bad chemists, to add alum to the hypo solution, may be intelligently disregarded.

While the projection of the image on the sensitive surface is purely an optical matter, the production of the image in all its stages, from the undeveloped film to the finished print, is a series of chemical operations, amenable to the laws governing that branch of science, just in proportion to our acquaintance with the reactions incident to each phase. There is much in most of these phases that we do not yet know, or know but imperfectly, and herein lies the great charm of experimental work. Just as a knowledge of botany and geology opens up new pleasures to the wayside wanderer, so does a knowledge of the chemistry and optics incident to

photography add a thousand-fold to the pleasure of its practice; and the discovery of a new fact, the addition of one stone to the cairn, is to him who makes it for the first time a revelation of a happiness hitherto undreamt of.

But, says the would-be experimentalist, "this may be all true, but I know little or nothing of the branches of science a knowledge of which seems so essential to a true appreciation of photography, and I am too old and have too little time to begin and carry it through." Not so, my friend. All the necessary knowledge may be obtained by a careful study of at most four books, which may be thoroughly mastered in a few months, even although your leisure hours be but limited, and especially if you can induce an equally anxious friend to join you, as it is astonishing how much better two heads are than one in studying any subject. All that you can possibly want of optics may be learned from "The Optics of Photography and Photographic Lenses," by J. Trail Taylor. It is written by a photographer who knows all about it, for photographers who know little or nothing of the subject, and is indeed so plain that "he who runs may read." The necessary foundation in chemistry may be laid by the study of any elementary work on that science, and followed up by the latest edition of "Hardwich's Photographic Chemistry," and the cope-stone laid by "Meldola's Chemistry of Photography." I do not say that these books are the best for the purpose, but recommend them simply because I know them well and can vouch for their being in every sense suited for the purpose. As there is sometimes a difficulty in finding a particular book at a colonial dealer's, and as a volume may come from London to Canada at the same rate of postage

as from London to the nearest neighbor, I may mention the publishers of those recommended. Taylor's Optics, Whittaker & Co.; Hardwich's Chemistry, John Churchill, and Meldola, Macmillan & Co., all of London.

JOHN CLARKE.

The International Photographic Exchange.

THE advertisement of the International Photographic Exchange in our August issue has seemingly attracted the attention of a good many of our readers, as we hear of a number who are getting ready a collection of prints from negatives in their possession to send over in exchange for views of different parts of the world. Probably in no other way can views of any nature desired, and from any part of the world, be obtained so satisfactorily and so cheaply.

S. H. Smith & Co.'s New Illustrated Catalogue.

We are in receipt of S. H. Smith & Co.'s new illustrated catalogue and find it to be fully up to, if not superior to, anything of the kind ever published in Canada.

It is neatly gotten up and contains illustrations and prices of every thing needful to the photographer, either professional or amateur. We understand that there is to be no charge for the catalogue, and as it will be found most handy in ordering goods and for reference, we should advise sending for a copy at once. It will help you make up a "trial order" for this progressive house.

Rodinal as a developer is rapidly growing in favor. Once tried it is generally used.

Eastman's "Solio" Paper.

WE are in receipt of an announcement from the Eastman Kodak Company to the effect that they are now prepared to take orders for their new printing-out paper, to be known as "Solio." In regard to supplying the demand for the new paper, they say:

Manufacturers have hitherto found it difficult to obtain a support free from injurious defects, but after careful tests, we have selected a specially prepared paper that is free from these defects, and have contracted for a large and continuous supply. With our unequalled facilities for coating and handling this paper the possibilities of production are almost unlimited and prompt shipments of uniformly good paper and a freedom from vexatious delays are thus ensured.

The prints on the new paper, which accompanied this announcement, would go for towards proving this paper to be *all* that the makers claim. The printing quality seems to be all that could be desired, and worked with the directions as given below yield a desirable range of tone.

The manufacturers' directions for using Solio paper are as follows:

Print in direct sunlight, covering thin negatives with tissue paper, allowing the print to get a little darker tint than the finished print should be. Place print without previous washing into the following:

COMBINED TONING AND FIXING BATH.

To tone 30 cabinets take:

Stock Solution A 8 oz.
Stock Solution B 1 oz.

Stock Solution:

A Hyposulphite of Soda..... 8 oz.
Alum (common) 6 oz.
Water 80 oz.

When dissolved add 2 oz. borax dissolved in 8 oz. hot water.

Let stand over night and decant clear liquid.

B Chloride of gold.....15 grains.
Acetate of lead (sugar of lead).64 grains.
Water 8 oz.

Tone to desired color and immerse prints

for five minutes in following salt solution to stop the toning :

Salt..... oz.
Water³² oz.

Wash one hour in running water or in sixteen changes of cold water, when prints may be mounted same as albumen prints.

If prints are not to be mounted they should be squeegeed on ferro-type plates to give a glaze or round glass to give a mat finish.

All solutions should be used as cold as possible.

In warm weather prints should not stand over night before mounting.

Mounted prints must be thoroughly dry before burnishing.

Solio paper neither cracks, curls nor blisters requires no special handling and can be used

with *ordinary negatives*. It does not fix out and does not require to be washed before toning and fixing.

After toning the prints are washed, mounted and burnished in exactly the same manner as albumen prints.

The company also give the following table as to comparative permanency between albumen and Solio.

Preparatory to putting our Solio paper on the market we have conducted an elaborate series of experiments with a view to determining the comparative permanency of prints made on albumen paper and upon Solio paper. The following is a summary of the experiments :

TEST	ALBUMEN TONED AND FIXED SEPARATELY.	ALBUMEN COMBINED TONING AND FIXING BATH.	EASTMAN'S SOLIO (GELATINE-CHLORIDE) PAPER, COMBINED TONING AND FIXING BATH.
5 Gr. Solution Potassium per manganate.	High lights badly discolored.	High lights badly discolored.	Yellow, but detail not destroyed.
Atmosphere of moist hydrogen.	Slightly bleached.	Slightly bleached.	Slightly bleached.
Atmosphere of moist oxygen.	Unchanged.	Unchanged.	Unchanged.
Hydrogen Sulphide (Wet).	High lights yellow, image greenish black.	High lights yellow, image green.	Slightly yellow, otherwise unchanged.
Hydrogen Sulphide (Dry).	High lights yellow, image black.	High lights yellow, image black.	Very slightly yellow, no other change.
Ammonium Sulphide.	High lights darkened, and image greenish black.	High lights darkened, and image green.	Yellowed and image greenish black, but clear.
Strongest daylight seven months.	Faded and yellowed.	Image fades and yellows in two months.	Unchanged.

The above tests are simple and any operator can readily repeat them for his own satisfaction. They are, however, much more severe than any to which prints are ever subject in ordinary use.

Our experiments lead us to the conclusion that the prejudice against a combined toning and fixing bath has no foundation so far as it relates to Solio paper. With the combined bath a variety of pleasing tones can be obtained, and a great saving of time and labor effected.

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The many desirable features of the Bradfisch Perfected Aristotype paper are evidently appreciated by our Canadian photographers, as the demand for this brand is rapidly increasing.

“Mosaics” for 1892.

The *Photographic Mosaics* for 1892, New York, Edward L. Wilson, is, if possible, better and more full of interesting and instructive matter than ever, and will be found, we are sure, in the hands of every one really interested in photography. It contains a complete record of the accomplishments of the past year, is richly illustrated and brim-full of useful hints and formulas.

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Those of the trade wishing fine work in enlargements and absolute permanency should read the Niagara Portrait Co.'s advertisement in our columns.

“Bromide Enlarging.”

BY FREDERICK PARK.

[Newcastle-on-Tyne and Northern Counties Photographic Association.]

I NEED hardly dwell upon the advantages of enlarging, so as to be able to make large prints from small negatives. Few words are necessary to convince any one of the value of being able to make pictures, suitable for hanging, from negatives which can be taken in a very small camera, while the taking of such direct from large negatives requires a camera which many of us cannot afford, besides which the extra labor in carrying a 16 x 12 camera and slides about the country necessitates an amount of work which not only many of us would not care to undertake, but which in many cases is almost impossible. Besides, amateurs, at any rate, don't want large prints by the score, but, as a rule, like to have a few prints from their best negatives of such a size that they can be seen without a magnifying glass, and it is for them that my remarks will be specially directed.

A great deal has been said about enlargement as compared to direct prints; but although I do not approve of “fuzzy” prints of any kind, I decidedly prefer a good enlargement of any size above 12 x 10 to a contact print of the same size, and from a negative taken direct in the camera.

A good enlargement of, say, three or four diameters, which need not be overstrained, has a softness in it which gives it a charm not possessed by a direct print of the same size.

Very fine definition is not required in pictures of 15 x 12 or over, as in the small sizes, because when we look at a 15 x 12 picture we usually stand a few feet away so as to see the whole picture,

while in looking at smaller pictures we view them much nearer, and fine-definition is then desired.

As it would be impossible for me to-night to go through and describe all the processes of enlarging, which most of you already know, I will confine myself to giving you some of the results of my own experience, hoping it may prove of use to any who wish to try this branch of photography for themselves.

With regard to the negatives, I usually take quarter-plates, as I find that they can easily be enlarged to 15 x 12, which is almost four diameters, without in any way overstraining, so as to cause “fuzziness,” and as that is generally large enough for most amateurs, I think quarter-plate negatives have many advantages.

Of course, half-plates or whole plates can be as easily enlarged as quarter-plates when daylight is used; but when artificial light is used, and a condenser is necessary, then quarter-plates are more easily dealt with, as the expense of condensers for larger sizes is a serious item.

After all, a half, or even a whole plate, is a small picture, and is more suitable for an album; and if we take negatives for the purpose of enlarging, we might just as well enlarge a quarter-plate as a half-plate. There is a slight objection to the use of quarter-plates, and that is when we enlarge them up to, say, 15 x 12 from a negative taken with an ordinary focus lens, the perspective is rendered incorrect; for instance, distant objects appear nearer than what they are in nature; but in picture-making this is, as often as not, an improvement, while, when they are not so much enlarged as, for instance, to 10 x 8, which is about two diameters, they are more correct than the original. As

bromide enlargements are the most commonly produced, and are in most respects the easiest, I will confine my remarks to this class.

The simplest method is, of course, to expose from the negative direct upon the bromide paper, and when this is properly done, the results are hard to beat. There are other ways, namely, to make a transparency of the size of the negative by contact, and from this make an enlarged negative. Or make an enlarged transparency, and from this make a large negative by contact, and from this print your enlargement. These latter processes are well adapted, when a large number of prints are required, as, of course, each enlargement can be printed in the printing frame and much time saved; but if only two or three are required, there is no need to go to this extra trouble of preparing an enlarged negative, as the first process will yield results which cannot be surpassed, and it has the advantage of being simple, while the more processes you introduce, the more difficult it is to succeed.

Negatives for enlarging should be full of detail, and not too dense and sharp to the edges. I usually take them with stop $f/32$ and develop them without much bromide in the developer, just sufficient to keep them from fogging, as they should be quite clear.

Any amount of contrast can be had in the enlargement by using sufficient bromide when developing it. It is astonishing what excellent enlargements, with plenty of contrast, can be made from negatives without much contrast, while negatives with great contrast are unsuitable for enlarging. The only way to treat these is to subject them to a very powerful light, as a weak light, acting for

a longer time, has not the same effect. The image being on the surface of the paper, the deep shadows get blocked up before the other parts are brought out, and show no detail in the denser parts, which is not the case in a negative or lantern slide, which is viewed by transmitted light, when the detail in the denser parts is easily seen.

Another advantage in using a small stop when taking negatives for enlarging is that you get much more even negatives, so that the density at the centre is not greater than that at the edges; whereas, with a large stop, more light strikes the centre of the plate than the edges, and consequently the density is greater in the centre. Negatives suitable for enlarging make excellent direct bromide prints, if developed in the same way.

Either daylight or artificial light can be used. When daylight is used, various means can be adopted, but I think the best and simplest way is to place the negative toward a window and photograph it, so that to do this you must have a light-tight box of the size of the enlargement, or, in other words, a substitute for a large camera. This does not require the room to be darkened, nor to have to work in a dark room, and is, I think, a simpler method than having to block up a window, which is not always an easy thing to do, the camera taking the place of a dark room. This is best made with a large bellows, the one end of which is fixed to the front for carrying the lens, and to the other end a frame is fixed, to which a dark slide can be fitted. A hinged door can be used, on which the bromide paper is pinned, but a dark slide is much to be preferred, as the paper can be shut up and carried to the dark room to be developed; whereas, if the

paper is only pinned on a board, it would have to be developed in the same room, or the whole apparatus carried bodily away to avoid the light.

(To be continued.)

American "Aristo" Paper.

That collodio-chloride emulsion paper, as manufactured by the American Aristotype Company, of Jamestown, N. Y., has "come to stay," is a question which, in view of the very extensive use that is being made of it, hardly admits of a doubt. Its introduction into the markets and studios in the western portion of the States was followed by a demand from the Middle and Eastern States that at first seemed to threaten to entirely swamp the business. The facilities of the already large factory were largely increased, and still the demand surpasses the output. The great popularity of this paper is due largely to the fact that finer detail and finish can be obtained on it than could be had with almost any other medium. It is susceptible of the most beautiful finish when burnished in an ordinary roll burnisher, and its manipulation is as simple and the resulting tones as uniform as with albumen paper. There is little doubt but that we shall see it in use in this country before long, and from its reception in the States and the intrinsic value of the paper as a printing medium, we predict for it a wide popularity.

An Inquiry.

"A Subscriber" asks: "What shall I use to precipitate a barrel of gold and silver wet waste mixed?" The best thing to use is sulphurate of potassa, barring the smell, which our subscriber will probably find is not of the "sweet violet" order.

Art Space at the World's Fair.


THE allotment of wall space in the Fine Arts building to various nations for the hanging of pictures, to be exhibited at the World's Fair, has been made as follows:

Nation.	Lineal feet.	Hanging space, Sq. feet.
United States.....	2,475	34,636
Great Britain.....	1,401	20,325
Canada.....	193	3,895
France.....	2,082	33,393
Germany.....	1,438	20,400
Austria.....	866	11,564
Belgium.....	835	12,318
Italy.....	810	11,410
Norway.....	550	8,462
Sweden.....	497	7,005
Denmark.....	272	3,930
Russia.....	554	7,725
Spain.....	550	7,807
Holland.....	658	9,337
Japan.....	206	2,919
Mexico.....	125	1,500

The space applied for had to be cut down in almost every case, for the simple reason that the aggregate exceeded the total space that is available. The space allotted to Great Britain, Germany, etc., as a rule, includes that for their colonies. In the space allowed France 4,192 feet will be devoted to French masterpieces owned in America.

In calculating area of wall for hanging, space above the "picture line" is taken as fifteen feet, except in some few galleries and pavilions where it is twelve feet. The "picture line" is invariably thirty inches from the floor. Some of the figures include space for paintings in oil, water color and decoration, as well as the architectural exhibit. The smaller allotments in some instances are for oil paintings only. The four great galleries in the nave and transept will be devoted to the collections of sculpture and monumental decoration, as well as the architectural exhibits of all countries, with the exception of those provided for completely in the space allotted.

Mr. Hopkins' "Vici" Paper.

 R. Hopkins, of the C. E. Hopkins Co., of Brooklyn, N. Y., was in attendance at the P. A. C. and introduced a new paper, something that, if it works regular as he showed before the convention, will be well received by the photographers throughout Canada. It is a thorough "mat" surface paper, there being no gelatine in it whatever. The printing is done in the sunlight until a slight outline is obtained; then put in the developer without previous washing, and the image is quickly developed. This operation was a surprise to us more than anything else.

The developer is composed of Rochelle salts, borax, and bichromate of potash, chemicals which are exceedingly cheap, and from this formula we should judge that a gallon would cost about twenty-five cents. The looks of the paper resemble "blue" paper very much. The print is left in the bath until the yellowness has entirely disappeared. This takes about ten minutes. There seems to be absolutely no chance of over-developing the print, for as soon as it is placed in the developing solution it flashes up at once and is only left in the solution to clear the yellow look from the paper. The tones obtained range from a sepia to a black.

When the paper is thoroughly clear, the developing solution is washed off and the print placed in the fixing bath, composed of ammonia, 3 drams to 32 ounces of water. For a small quantity of prints ten minutes' fixing is sufficient, but for a large quantity it seems to be desirable to fix in two separate baths. Our readers will no doubt see the advantage of this. The paper is then washed for twenty minutes and mounted. As it a "mat" surface paper, the burnish-

ing, of course, is done away with. We are informed that there is no stretching to this paper, also no curling, and as it is a non-gelatine paper the surface is indestructible. We doubt very much whether there is any other paper manufactured that claims all of the above points.

The prints which Mr. Hopkins exhibited at the convention looked very similar to platinotype; in fact, if we had seen them exhibited under that name, we would have set them down as such. The whites seem to be perfectly clear, and the shadows give detail. The working qualities are simplicity itself, the only care necessary being to give the right amount of exposing for printing. This is not more complicated than albumen paper. Mr. Hopkins informs us that he is now looking up the matter of rough paper to put this coating on for crayon work, and if he perfects a paper in this line we predict that it will be used in place of bromide for enlarging and solar work.

There has been a demand developed for non-glossy paper, but on account of the high price of platinum it has been used very little by the photographic fraternity.

Mr. Hopkins thinks that this paper will have a very ready sale, on account of being entirely new to a large number of photographers.

.....

Ottawa Troubles.

Mr. Samuel Jarvis, who has been in business in Ottawa for some twenty-five years past, has been compelled to make an assignment and his stock has been sold to satisfy creditors.

Mr. Louis Bellanger, of Ottawa, has also succumbed to keen competition and the quietness of trade the past summer, and assigned.

Deficiencies in the Training of Photographers.*

BY E. HOWARD FARMER.

When it is known in the early life of a lad that he will probably become a photographer, his training should commence during the latter years of his school life. His studies can then be guided in directions which in after years will be directly useful to him in his professional capacity, and he will acquire knowledge readily that may later save him much labor and effort.

Where this has been done it will be generally found that the directing parent is a photographer or connected with photography, and in such cases the same forethought which has guided these early studies into useful channels has probably continued their direction to a successful *denouement*.

IMPORTANCE OF CONTINUITY.

But the majority of those who become photographers have their career decided after leaving school—sometimes a good many years afterwards—and it is to these my remarks more especially apply.

We may suppose a lad has left school, and not until he has subsequently spent a year or more in holiday-making is the important decision made as to what his life's work shall be, and steps are taken to start him on his career.

Now, while the whole of our sympathies may go to aid the lad's pleasures in the heyday of his youth, the stern competition of life enforces the doctrine that this, the most valuable portion of his life from an educational standpoint, must be utilized to the utmost, and in doing this there is no need to deprive him of his pleasures, but they must come in as a complement, forming natural divisions to his work.

It is well known among teachers that the assimilative power for new knowledge usually falls off very much after the age of twenty or so is reached. This is especially the case when a lengthy gap or interval has been allowed to occur in the training, and a mass of evidence to support this occurs with photographers in the very small proportion who, however hardly they may be pressed, attempt even to increase their knowledge, and the steadfast application required from those who

do; it is not too much to say, that independent of the inferior value which knowledge acquired at the age of twenty-five to thirty possesses, as compared with the same knowledge acquired at from fifteen to twenty, the labor and application necessary in its acquirement is three or four times as great at the more advanced age.

It is from considerations such as these we are forced to conclude that in allowing a lad's training to stop suddenly when he leaves school, even if only temporarily, not only are the best fruits which might readily follow from the cumulative effect of his previous training left ungathered; but, before he has arrived at an age when he himself may fairly be held in some measure responsible, his future status is placed in jeopardy.

DEFICIENCIES OF THE APPRENTICESHIP SYSTEM.

We may next suppose that the lad forming our example is apprenticed or placed to learn his trade with some firm of photographers. In accomplishing this, the parent very frequently considers that he has now fairly started the lad on his career, and, so far as any further training is concerned, leaves it to the care of his employers and the lad's own devices.

Almost universal as such a method of starting a photographic career is, the demonstrable insufficiency of such a procedure is only too complete. In the first place, the professional education, excepting so far as acquiring manipulative skill and a knowledge of some aspects of the commercial economy of the business is concerned, leaves off where it ought to begin, and, although no one will hesitate to admit the prime importance of manipulative skill and of business methods, the trained photographer nowadays requires a great deal more in order that he may attain any *status*. In the second place, even the manipulative work is confined to one or two specialties, whereas the student wants at this, the very early stages of his career, and before specializing, trial practice in all branches. Thirdly, the skill acquired will depend largely upon the attention devoted to the student by the employer and fellow-employees, which introduces an element of uncertainty into the training, and to which may be added the inevitable proportion of time which is wasted or during which no progress is made. There are also other reasons, which at first sight are

*Read at Edinburgh Convention.

not so obvious, why the old system of apprenticeship, which is fast disappearing in other trades, must also in photography disappear, or be largely modified and supplemented, in order that the photographer may not only acquire an honorable *status* in his profession, but also keep on a distinct level above his neighbor, the amateur.

TECHNICAL AND ART TRAINING—THE NECESSITY FOR.

After his training has commenced, our supposed young apprentice finds there are at least five distinct sides to his subject, as follows.

1. The Practical or Manipulative.
2. The Technical.
3. The Commercial.
4. The Artistic.
5. The Scientific.

Each of which requires his attention in a greater or less degree, according to the character of the work to which he intends devoting his abilities. To convey some definite idea of the average relative importance of each of these divisions, it will be necessary to consider them individually.

1. *Practical*.—The manipulative skill required for most branches of photographic work is not of a high order; for example, the actual operations involved in the taking of a portrait negative are all of a fairly easy character, and require but little experience and practice on the part of a student to perform them with regularity and success. Notwithstanding this, the chief help which the student usually derives from his work in the studio is confined to a sufficiency of experience in these easily acquired manipulations.

There is, however, one special branch of studio practice which requires a very high degree of skill, and that is retouching. In other departments of photography also—such as working large wet plates successfully, some portions of process work, and others—considerable manipulative skill is essential.

2. *Technique*.—It is not difficult to show that the main foundation of photography, as a profession, lies in its technique.

Whether in the artistic or scientific departments, in landscape, seascape, motion, architecture, reproductions, or printing processes, the worker who is trained in either of them is the one who excels, and, on examination, it is found that the success depends not so much upon any particular difficulty in

performing the necessary operations as upon a complete familiarity with the *minutiæ* and details of procedure, which give the best result under particular conditions. The reason that several years' training is commonly necessary to get a fair percentage of successful results in any one of them is due to the fact that the worker has not had the opportunity of learning, in a systematic form, the *minutiæ* and special factors which govern different classes of work, but is left, like a man groping in the dark, to find his way slowly and laboriously by the method of trial; and, even if he has the guidance of a fellow-worker, it is one who has found it himself by trial and experience, and can only impart it in the same manner.

Take two beginners of identical abilities, perseverance, and general education; give both the average training obtained as apprentices to a photographer, and give one of them, in addition, systematic instruction in technique. The latter will become as good a photographer in one year as the former will in four years, and will ultimately become a much more competent and independent worker.

3. *Commercial*.—Important as a training in commercial economy undoubtedly is, which includes such subjects as economy of time, material and wages; value of specialism and enterprise; punctuality, tact, and politeness; treatment of employer and employes; accommodation to circumstances; and, in fact, all the *minutiæ* which together form the system of a successful business man; this side of his training is one which, in great measure, would be the same in all trades, and which therefore is rather included in his general education than in his specially photographic one. That photographers as a body are behindhand in this department of their training is, however, a fact very widely conceded.

4. *Artistic*.—The value of an art training is second to none in the whole range of a photographers' studies, as it invariably gives the stamp of refinement and superiority to his work. This is abundantly testified in public displays of photographs, where the pleasing effects produced by artistic feeling or culture deservedly take the first rank.

5. *Scientific*.—The value of a purely scientific training to the working photographer has, in my opinion, been a great deal over-estimated. In the early days of the art, when the worker had to go through a series

of delicate chemical processes for each photograph taken, and when the successful performance of these processes was alone sufficient to tax the knowledge and skill of one individual, it may have been true that a trained scientist was the best man. But, in these day of dry plates and ultra-simplified printing processes, photography, except in its purely scientific divisions, is being lifted above a test of chemical knowledge or optical expertness, and, in taking its place as one of the most valuable handmaidens the fine arts possess, must sooner or later be admitted into partnership with them.

The chief use of a knowledge of chemistry, molecular physics and optics to the photographer, independent of the general educational value, lies in giving him a clearer insight into the sciences utilized in his work, and thereby inducing an interest which acts as a powerful antidote to the apathy which is so fatal an enemy to progress.

MORE CARE REQUIRED IN SPECIALIZING.

Another division of his subject is recognized by the photographer more and more clearly as his work proceeds. Having probably started by associating photography with taking portraits only, he becomes conscious of fields and scope for work in which portraiture plays no part; he finds workers devoting the whole of their time and energies to landscapes, to copying, to architecture, to printing, or to process work; and even in portraiture alone he finds one worker devoting himself to operating, another to retouching, and a third to printing. He begins to realize that it is impossible for an average individual to master every branch of photography, and so it comes about that he, like the others, has to select some departments and reject others—in fact specialize,

In doing this, he is usually guided by what he considers the most lucrative portion of the art, and in most cases portraiture seems to be chosen. It is of course, a matter of opinion as to which branch of photography offers the most lucrative openings; but in my opinion the prospects of a landscape or general worker, or a reproductionist, at the present time, are better than those of a portrait photographer, these prospects being not so much in the silver print as in the collo-type film, the copperplate, or the type block.

There are other factors also which should be considered in deciding upon the direction

in which to specialize. The probationist, while it is still in his power, should be guided more by his own capacities and temperament than he is at present. If he likes indoor life and delights in the human figure, he would be unwise if he did not take up portraiture; but, if an outdoor life suits his constitution and tastes, he would be equally unwise if he did not specialize in landscape or other outdoor work. For town life he must be more expert and specialistic than for country life, for which a good general excellence is better suited. And, again, according to his proclivities, he should choose the artistic or manipulative sides of his subject.

Whatever special branches he ultimately adopts, a good general commercial and art education, and a good technical and trial knowledge of all the principal photographic processes, with their individual applications and possibilities, should form the basis of his work.

EVIDENCE OF THE PRESENT INSUFFICIENCY OF TRAINING.

Evidence of the insufficiency of the present system of photographic training is everywhere present.

In the extremely limited range of most workers' skill, which, while good in itself when carried to sufficient perfection, and supported upon a general foundation, is frequently mere rule of the thumb, so that the results are capricious, and, in taking up new processes or methods which the progress of technology or discovery may render advantageous, the worker finds himself but little better than a novice.

In the deficiency of technical, artistic, and general knowledge so commonly met with, which, while it is excusable among those who, interested in photography, are not expected to know its *mnutitiæ*; it is inexcusable among those who, by their calling, are expected by a public—quick to criticize harshly—to have been properly educated in the art they profess.

And, last but not least, in the surprising facility with which a determined outsider will place himself on a level with workers of a lifetime.

THE PROBABLE REMEDY.

It is, I believe, in the spread of a sound and largely extended intermediate and supplementary training to that of the school and the studio that the photographer will not only

occupy an impregnable position as a specialist but will also learn how to utilize to the utmost advantage the factors and processes at his disposal, and in so doing will both kill the untrained competition from which he in so many cases at present suffers, and will place his business on the soundest of all foundations.

.....

An Important World's Fair Appointment for Toronto.

Mr. J. Fraser Bryce, of this city, has received official notification from the directors of the Columbian Exposition that he has been appointed a member of the Advisory Council of the World's Congress Auxiliary on Congress of Photographers. This being about as high, photographically, as one can get at the World's Fair, Mr. Bryce is to be congratulated on the appointment.

.....


Received Too Late for this Issue.

Mr. C. A. Lee, of Listowel, has kindly written out for us at our request his interesting talk on "Printing and Toning Albumen Paper" at the late convention. It was, we are sorry to say, received too late for publication this month, but will be found in our October number.

.....

Some very interesting exhibits of photography are to be sent to the Exposition from Sydney, New South Wales. The collection is being prepared by the Government printing office, and will consist of some 400 views measuring 40 by 30 inches. Some of these pictures, when arranged in panoramic order, will finally measure 40 feet in length. An enlarged view of the moon, from a negative taken by Mr. Russell, the Government astronomer at the Observatory, is said to be one of the gems of the collection.

Our Illustrations.

 UR frontispiece this month, the work of Dana, of New York, proves us two facts—that lighting is an *art*, and that American Aristotype paper is capable of yielding exquisite tones.

Mr. Dana's picture may well be called a "Portrait Study," for it is indeed a study in posing, lighting, retouching and in *paper*.

We often hear the remark, "Oh, such and such a man's work is all in the people who sit for him; we could do as well had we the same advantages in subjects and costumes." This, perhaps, is true to a certain extent, but how few photographers realize that very often the lighting of a picture is its beauty, that just as good a tone can be obtained on the picture of a simple country lassie as on that of an actress, mistress of the art of posing, and that a good paper, such as the American Aristotype, and a thorough knowledge of its manipulation are essential to the making of a picture which can be rightly termed a "Portrait Study."

Our half-tone illustration for this month is from the hands of the Moss Engraving Company, of New York City, one of the largest and best-known establishments of the kind in the States, and is a fair sample of the good work this house always turns out.

.....

Didn't Want That Kind.

Mr. Smythe—"Got them photographs of my mother-in-law finished yet?"

Photographer (handing him one)—
"Yes, sir, and I should say it was a speaking likeness, sir."

Mr. Smythe (passing it back)—
Thanks, I don't want that kind."

Work of the Eastman Kodak Co.

THE following description, taken from a Rochester paper, of work done by the Eastman Kodak Company for the World's Fair, as ordered by the State Department of the Government, is very interesting :

"The Eastman Kodak Company has just completed the work of enlarging nearly 700 pictures for the State Department of the Government which are to be exhibited at the Columbian Fair. The collection is one of the most unique and valuable that the Government has ever made and will form a prominent feature among the exhibits made by the United States at Chicago. Charles O. Thompson, the company's artist, has been engaged with an assistant for nearly two years in reproducing these pictures, and the results are highly satisfactory to the State Department and creditable to the artists.

"Several years ago the Government decided to secure the originals or copies of all paintings, works of art and old books that pertained to the life of Columbus, the discovery of America and the events which were connected with that discovery. Artists were sent abroad to copy the famous paintings in European galleries and to hunt for rare pictures which would throw light upon the historical scenes of Columbus' time. Accurate photographs were taken of paintings, old maps and statues, and a contract was then made with the Eastman Company to enlarge these to attractive size.

"Through the courtesy of Mr. Thompson, a *Union* reporter spent a pleasant hour last evening in examining the original copies, which were forwarded to the company by William E. Curtis of the Bureau of American Republics, who is in charge of the work of making

the collections for the Government. So accurate are many of the photographs that the cracks and marks which time has left upon the painter's canvas, and even the stroke of the artist's brush, are strikingly reproduced. The early home of Columbus in Geneva, the convent where he was educated, his appearance at the courts of Spain and Portugal, while endeavoring to secure aid in carrying out his voyage, and many scenes in Spain and Italy during that historic time, which were painted by the celebrated artists of that period, are brought vividly to the eye by means of these photographs.

"Many of the photographs are naturally indistinct,' said Mr. Thompson, 'as the colors in the original paintings have become faded by time. A large number of the pictures were enlarged on bromide paper and finished in crayon. We also reproduced many of the portraits in oil and some of the more striking pictures in water colors and pastels. The average size of the enlarged picture was forty by fifty inches, but many of them are much larger. After the pictures have been shown at the World's Fair, they will probably be placed in the art museum of the Smithsonian Institute at Washington.'

"Perhaps the most interesting part of the collection is the different portraits of Columbus, of which there are nearly sixty. These were copied from the original paintings in the art galleries of Venice, Milan, Florence, Rome, Madrid, Lisbon and other cities, and represent the great navigator in youth, in middle life and old age. Some of the pictures give the discoverer the look of a Dominican monk, with lean and austere countenance, a high forehead and scanty locks of hair. In others he appears as a jolly round-faced

sailor, apparently more fond of his grog than of discovering new continents.

“‘It is not generally known’ said the artist, ‘that there is not an original portrait of Columbus in existence, and that the first picture of him was painted nearly fifteen years after his death, and from descriptions furnished the artists by his former friends and associates. Perhaps the most famous of these is the Giovio portrait, as it is called. About the period when this was painted, several eminent artists in other countries also made portraits of Columbus. It is not probable that they received their information as to his personal appearance from the same sources, and as there is a marked resemblance between several of these paintings it is evident that they are fairly correct. The Yonez and Rincon pictures of the court of Spain are the oldest in that country and are claimed by that Government to be authentic. Another famous portrait is the one which hangs in the palace of the Ministry of Marine at Madrid.’

“The photographs of these noted paintings represent Columbus to have been a man of medium height, with aquiline nose, high forehead and a face that was marked with much intelligence and individuality.

“The collection also contains photographs of the maps drawn by Columbus and his contemporaries of the New World. In some, South America has the shape of a large round apple, but in the last one drawn by Columbus the outline of the coast and the appearance of the country is accurately described. In the first chart of the West Indies, drawn by Juan La Cosa, Columbus’ pilot, he is represented as bearing the Christ-child across the Atlantic, symbolic of carrying salvation to the New World.

“There are also many quaint pictures of scenes in the New World which were painted by European artists from the descriptions brought back by the first voyagers. The strange appearance of the natives, the vast forests of the new country and the animals, many of which are portrayed with human heads and faces, are to be seen in many grotesque pictures.

“Many of the maps and books sent to the company to be photographed were loaned to the United States by Spain and Italy and are very rare and valuable. They were all insured by the Government while they remained in Rochester. An old and stained book of charts bound in ox-hide, which dated back to 1520, was alone insured for \$15,000.”

A New Gallery.

Mr. Charles L. Rosevear, who has been connected in the past with several of Toronto’s best galleries, and who has the reputation of being one of the best photographic printers in the city, has opened up a very attractive studio at 538 Queen street west. Besides the usual work done by a first-class gallery, Mr. Rosevear will make a special feature of developing and printing for amateurs.

Mrs. Cleveland has had four very pretty photographs taken by Sarony, just as a little preliminary in the presidential campaign. She stipulated that the proofs should be satisfactory to her before the pictures should be printed for sale. So the press throughout the States is now presenting portraits of the lady, which suggest great comeliness and an amiable disposition. The baby Ruth’s picture should make its appearance a little later.

Focus of Lens, inches	TIMES OF ENLARGEMENT AND REDUCTION.							
	1 inches	2 inches	3 inches	4 inches	5 inches	6 inches	7 inches	8 inches
2	4 4	6 3	8 $2\frac{3}{4}$	10 $2\frac{1}{2}$	12 $2\frac{2}{3}$	14 $2\frac{1}{3}$	16 $2\frac{2}{7}$	18 $2\frac{1}{4}$
$2\frac{1}{2}$	5 5	$7\frac{1}{3}$ $3\frac{3}{4}$	10 $3\frac{1}{3}$	$12\frac{1}{2}$ $3\frac{5}{8}$	15 3	$17\frac{1}{2}$ $2\frac{1}{1\frac{1}{2}}$	20 $2\frac{0}{7}$	$22\frac{1}{3}$ $2\frac{1}{1\frac{3}{8}}$
3	6 6	9 $4\frac{1}{2}$	12 4	15 $3\frac{3}{4}$	18 $3\frac{3}{5}$	21 $3\frac{1}{2}$	24 $3\frac{3}{7}$	27 $3\frac{3}{8}$
$3\frac{1}{2}$	7 7	$10\frac{1}{3}$ $5\frac{1}{4}$	14 $4\frac{2}{3}$	$17\frac{1}{2}$ $4\frac{3}{4}$	21 $4\frac{1}{3}$	$24\frac{1}{2}$ $4\frac{1}{1\frac{1}{2}}$	28 4	$31\frac{1}{3}$ $3\frac{1}{5\frac{1}{8}}$
4	8 8	12 6	16 $5\frac{1}{4}$	20 5	24 $4\frac{1}{3}$	28 $4\frac{2}{3}$	32 $4\frac{4}{7}$	36 $4\frac{1}{2}$
$4\frac{1}{2}$	9 9	$13\frac{1}{3}$ $6\frac{3}{4}$	18 6	$22\frac{1}{2}$ $5\frac{5}{8}$	27 $5\frac{2}{3}$	$31\frac{1}{3}$ $5\frac{1}{4}$	36 $5\frac{1}{7}$	$40\frac{1}{2}$ $5\frac{1}{1\frac{1}{8}}$
5	10 10	15 $7\frac{1}{2}$	20 $6\frac{2}{3}$	25 $6\frac{1}{4}$	30 6	35 $5\frac{5}{8}$	40 $5\frac{5}{7}$	45 $5\frac{5}{8}$
$5\frac{1}{2}$	11 11	$16\frac{1}{3}$ $8\frac{1}{4}$	22 $7\frac{1}{3}$	$27\frac{1}{2}$ $6\frac{5}{8}$	33 $6\frac{1}{2}$	$38\frac{1}{2}$ $6\frac{5}{1\frac{1}{2}}$	44 $6\frac{2}{7}$	$49\frac{1}{2}$ $6\frac{3}{1\frac{3}{8}}$
6	12 12	18 9	24 8	30 $7\frac{1}{2}$	36 $7\frac{1}{3}$	42 7	48 $6\frac{4}{7}$	54 $6\frac{3}{4}$
7	14 14	21 $10\frac{1}{2}$	28 $9\frac{1}{3}$	35 $8\frac{3}{4}$	42 $8\frac{2}{3}$	49 $8\frac{1}{3}$	56 8	63 $7\frac{7}{8}$
8	16 16	24 12	32 $10\frac{2}{3}$	40 10	48 $9\frac{3}{4}$	56 $9\frac{1}{3}$	64 $9\frac{1}{7}$	72 9
9	18 18	27 $13\frac{1}{2}$	36 12	45 $11\frac{1}{4}$	54 $10\frac{4}{5}$	63 $10\frac{1}{2}$	72 $10\frac{2}{7}$	81 $10\frac{1}{4}$

THE object of this table is to enable any manipulator who is about to enlarge (or reduce) a copy any given number of times, to do so without troublesome calculation. It is assumed that the photographer knows exactly what the focus of his lens is, and that he is able to measure accurately from its optical centre. The use of the table will be seen from the following illustration: A photographer has a *carte* to enlarge to four times its size, and the lens he intends employing is one of six inches equivalent focus. He must, therefore, look for 4 on the upper horizontal line, and for 6 in the first vertical column, and carry his eye to where these two join, which will be at $30-7\frac{1}{2}$. The greater of these is the distance the sensitive plate must be from the centre of the lens; and the lesser, the distance of the picture to be copied. To *reduce* a picture any given number of times the same method must be followed, but in this case the greater number will represent the distance between the lens and the picture to be copied; the latter, that between the lens and the sensitive plate. This explanation will be sufficient for every case of enlargement or reduction.

If the focus of the lens be twelve inches, as this number is not in the column of focal lengths, look out for six in this column and multiply by 2, and so on with any other numbers.

Keep Your Lenses in Order.

Messrs. Taylor, Taylor & Hobson, of Leicester, give the following useful hints on this subject in the *News Almanac*:

How to Preserve Lenses. — Lenses should be kept in a pure, dry atmosphere, away from dust and damp. These impair the polish of a high-class instrument, and, by scattering some of the light which passes through, produce a degree of "fog" in its images and negatives.

Use an old clean cambric handkerchief to remove dust. Never *rub* the glass, nor use whiting, leather, paper, or anything likely to contain a "suspicion" of grit; but only brush it lightly with such a smooth, soft duster as the clean old cambric handkerchief.

A visible speck on a lens is of less importance than an invisible and general imperfection of polish, or a film of fine dust or moisture.

Lenses should not be left before a fire nor in the sun to become unduly heated; nor should they be so cold, when used in a damp atmosphere, that moisture is condensed upon their surfaces.

It is difficult to drop a lens without damaging it, though the effect may be outwardly invisible. A damaged lens should be repaired without delay.

In screwing together the part of a lens, or putting the lens in its flange, turn first in the wrong direction until the fittings snap together in the position for starting, then reverse the motion to screw them together.

To guard against a frequent cause of fogged negatives, and to secure the full effect of a high-class lens, the inside of every camera should be quite black and free from any trace of shininess. This is a very important matter, commonly neglected, but needing constant attention.

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No. 7.—B Suter, \$120, For \$100 Cash.

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Toronto Camera Club.

THE members of the Toronto Camera Club have been quietly working away during the summer months and have secured many and varied subjects, and from the few samples we have seen, the coming winter evenings at the rooms should prove very interesting and entertaining. Members of the club have gone in many different directions, extending from British Columbia to the Lower St. Lawrence, and we believe that the West Indies and Europe have been visited, so no doubt there will be much to discuss and exhibit that is both new and instructive.

The first regular weekly meeting of the club for the coming season will be held on Monday, 3rd of October, when a first-class lantern will be provided to exhibit any slides that are at hand. Members will therefore do well to remember to bring with them their newest and latest.

We understand that it is the intention of the club to have "lantern nights" on the first Monday of each month and demonstrations on each other Monday during the winter, as was done last year and proved so taking.

The annual general meeting will be held on the 7th of November, when the usual shuffle of officers will take place. Though the club has been fortunate in its selection of officers, we are of the opinion that there is room for improvement and new blood, which there should be no trouble in obtaining out of a membership of over one hundred.

.....

Suter Lenses.

Allen Bros., of Detroit, who are sole agents for this make of lens, are to be congratulated on the superior quality of the lens they handle. Some work seen lately done by the "Suter" was equal to that of far more expensive makers.

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