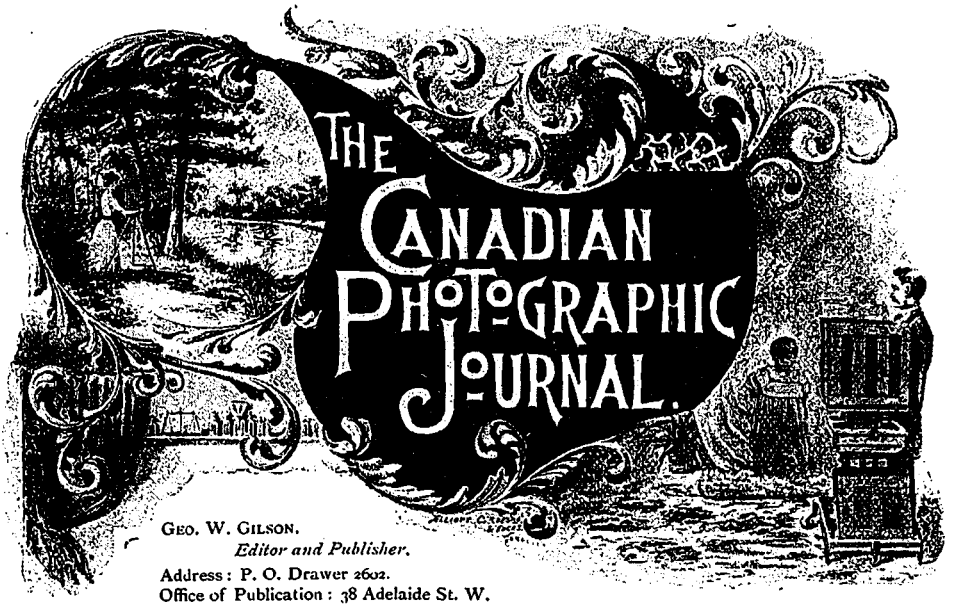
KELLIE & CO. PHOTO. MONTREAL.

STANLEY PLATE "EAGLE" PAPER



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Our Illustrations.

THE lighting, posing and general effect of the portrait studies which we are enabled, through the kindness of Messrs. Kellie & Co., of Montreal, to present to our readers this month, will bear close inspection and repay careful study. The good qualities of the "Stanley" plates are also well shown. The prints were made on the well-known "Eagle" brand, albumen paper, imported by Mr. G. Gennert, of New York.

.....

Messrs. Kellie and Sobeski are both practical photographers of large experience and rank among the most artistic of Canada's photographers. They operate a handsomely equipped gallery on Phillips' Square, and enjoy the patronage of fashionable Montreal.

.....

Mr. Sobeski is one of Montreal's best male singers. He is at the head of one of the finest choirs in that city, and in musical circles is widely known and very popular. The song recitals given by him occasionally, assisted by the most select musical talent of Montreal, are looked forward to with great pleasure by lovers of high class music, and are always crowded to the doors.

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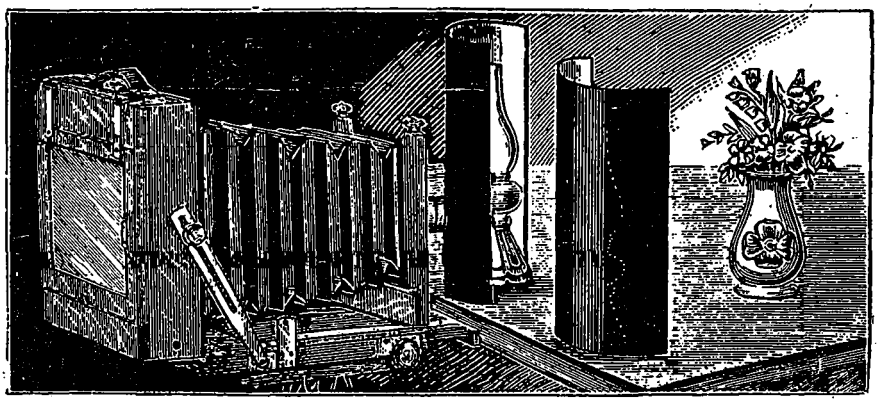
Copying and Photography by Artificial Light.

BY JOHN CLARKE.

THERE are many lovers of photography whose aspirations are sadly restricted by a too limited leisure, but who might do much interesting work, if they only knew how, by



artificial light, to utilize their spare evenings; and my object in this article is to show how I succeed with great ease and perfect success in making negatives from small engravings, bouquets of flowers, statuettes, coins, medals, and the thousand-and-one such articles, all of which are available for either lantern slides or paper prints.

I don't, of course, mean to say that the following arrangement is the best that could be devised, but only that it answers the purpose well, and that it may serve as a hint to those who have both the ambition and the means to construct something more permanent and ornamental.

The above cut, copied from the interesting price list of W. Tylar, of Birmingham, England, will convey a general idea of the arrangement, and help to make a description of my modification of it clear.

The first essentials are a comparatively short-focus lens, and long-range camera; the latter drawing out to at least twice the length of the former, and better still if a little longer—my camera extends to twelve inches, while the lens is a four and a half inch rectilinear. The camera is nine inches wide, and as a base-board I have a piece of inch pine two feet long and ten inches broad, with a half-inch slat fastened from end to end at each side, making, as it were, a nine-inch groove in which the camera slides easily, and is kept square on to the base-board.

For holding an engraving, medal, or anything that requires to be suspended before the lens, I use one of those boxes with sliding covers that are used for packing—in fact, the box in which the "edition de luxe" of the *Photographic Times Annual* came in. This is placed on end close up to the end of the base-board, and the engraving tacked on to the cover a little lower than the centre of the lens, so that by pulling up the lid, which slides with sufficient friction to remain in any desired position, it is easily centred.

The source, or sources of illumination are two kerosine lamps, and as on the *quality* as well as the intensity of the light which they give depends much of the success or failure of the operation, they should be selected with care. I have tried many varieties, and come to the conclusion that the "Rochester" is the best, and it certainly answers the purpose admirably. The particular pattern I use is marked "The Jr. Rochester." It is a circular wick, central draught, substantially made, and not likely to get out of order; and gives a brilliant cup of fine white

light, and great intensity. The centre of the flame should be level with the lens, and as in the lamps in question it is eight inches from the base-board, while the centre of my lens is only five inches, the camera is raised on a block of wood three inches high.

For the double purpose of acting as a reflector and preventing the accession of light to the lens, a sheet of tin-plate bent into the form of a half cylinder was employed, but subsequent experiment showed that a sheet of cardboard was better, and as the tin-plate is easier bent and more readily retains any desired form, I now employ it coated with white "enamel paint."

In photographing engravings, paper prints, or flat surfaces generally, the two lamps should be of equal intensity, as if so, the grain of even a coarse paper, or a streak caused by a print having been folded will not show; but in the case of solid objects, such as flowers, statuettes or medals in bas-relief, considerable inequality of the sources of illumination is desirable, and easily obtained to any required degree by either lowering one of the flames, or removing one of the lamps to the necessary distance.

By a modification of the same arrangement, as has been pointed out, I think, by Mr. Armstrong of Glasgow, Scotland, the production of lantern slides by reduction may be carried on successfully. For this purpose a sheet of white cardboard or other suitable *mat* reflecting surface is placed at the end of, and upright at right angles to, the base-board, and in front of that, and at a distance a little greater than the diameter of the la. ρs and their reflectors from it, a frame to carry any size of negative that is likely to be copied. The lamps and their reflectors are placed between the negative and cardboard reflector, so that the light, while brilliantly illuminating the latter, shall be excluded from the former. It is also desirable to exclude any stray rays from the lens, which is easily accomplished by resting two strips of wood on the front corners of the camera and the negative-holding frame, and laying the focusing cloth over them. As the degree of reduction depends on the distance between the lens and the negative, where that is considerable, it may be necessary to employ a longer base-board, but that everyone will readily find out for himself.

I don't, of course, wish my readers to suppose that I recommend this method of artificial illuminaton as being superior to the more generally employed daylight methods, or better than all other systems of artificial lighting. All I claim for it is, that its simplicity, certainty, and convenience is such that those whose daily duties leave little leisure for daylight photography, may, by it, and within its limitations, do all, and equally well that they could do, if their time during the day was at their own command, and that in it they have the means of turning the long evenings to pleasant and profitable account.

.....

Development of the Photographic Art.

BY W. E. H. MASSEY.

PART II.

WHEN once the daguerreotype process became known to the public, the rapidity with which the new-found art was taken up and generally practised was something marvelous. Photographs were soon made in all civilized countries. The result was, that numerous improvements began to be made immediately.

Daguerre had succeeded in reducing the time of exposure to fifteen or twenty minutes by his invention. Niepce's method had taken hours!

Twenty minutes was, therefore, considered a short exposure then; but still it was found to be altogether too long to make portrait photography practical. The time of exposure was, however, soon shortened by improvements in lenses and camera boxes, and still more so by increasing the sensibility of the silver plate; the latter being accomplished by various chemical processes invented by different men at different periods.

Portraits were first successfully taken in 1841. The inventor of the daguerreotype lived ten years after this—long enough to see the great result of his genius well established—and died at the age of 64.

While Daguerre was carrying on his researches in France, Talbot, an English experimentalist, was working in the same line. As a result of his labors the art was given a fresh impetus through the invention of the process of making a *negative* picture to be used in the production of *positive* proofs. A fern leaf or other object laid on a sensitized sheet of paper was exposed to light, thus making the negative; this was then waxed to make it transparent, and was in turn used to make positive prints.

A discovery of considerable interest was made in the library of Matthew Boulton, who died 1809, and who was a partner of James Watt. Boulton belonged to a secret society accustomed to meet at his house. On subsequent examination and removal of a vast accumulation of documents in his library, there were found crumpled and folded sheets of paper of a most puzzling kind; also two silvered metal plates not unlike those used by Daguerre. These strange-looking pictures gave every indication of experiments in the direction of photography, and on the two plates was a faint outline of Boulton's house unmistakably taken from nature, and marked "sun pictures." Nothing further is known of Boulton's researches and discoveries.

The first glass negatives are said to have been made by Niepce de Saint-Victor, a nephew of the inventor of the heliograph. He coated the surface with albumen and impregnated it with iodide of silver. The negative, when fixed, was used to make paper positives. This discovery was of immense importance to the art, and gained photography a rapid stride in advance. In the daguerreotype process, and also in the tin-type process, which followed the daguerreotype, the image is always reversed, as, for instance, the watch chain in a gentleman's pocket will appear as being in his right-hand vest pocket instead of his left, etc. Positive prints made from negatives give us an exact reproduction, and a true picture in every sense of the word.

The albumen process has been long used in producing "silver paper" for making positive prints from glass negatives. The method of making silver prints is, however, so commonly understood as to need no explanation on my part.

We find in photography, as in other great discoveries, that the fundamental work of the original inventor is left for others to finish. In the hands of many experimenters, the art has had a steady growth, and has advanced with ever-increasing rapidity. Like an avalanche, starting in a small, but sure way, it has gradually developed, broadening its scope, and rushed on with such rapidity that now one's ability is taxed to keep pace with the new uses and new phases of this most wonderful science, which are being brought to our notice almost daily.

With the discovery of collodion, about the year 1848, photography took another great bound towards perfection. This formed the basis of the good old "wet plate" process, which has been in common use until the last few years, and indeed it is still in use for some purposes. A glass plate coated with collodion dipped into the silver solution was then ready for use. It admitted of making exposures of very short duration as compared with previous methods. So great an improvement was this process over all previous methods, that most people believed the limit of attainment had been reached, and Tissandier closes his comprehensive "History of Photography" with this sentence: "On the appearance of collodion the art of photography may be said to have been completed. We therefore close its history." As well say the application of steam power had reached its limit on the invention of the stationary engine.

The next step was the invention of the collodio-bromide, or emulsion, dry plates—at first requiring a longer exposure than the "wet plate" process, but useful because of the prepared "dry" plates being more portable. Many of us can now recollect the dark-rooms on wheels and other cumbersome paraphernalia that the "wet plate" landscape photographer had to carry around with him in days gone by, and only those who have seen a sight of this kind can appreciate what a boon to the art the "dry plate" process has been. Gelatine dry plates solved the difficulty, and so perfect are they now made as to admit of making a picture with an exposure so quick as to tax the ability of the keenest mathematician to measure it. A very recent and most ingenious discovery is the celluloid transparent film, doing away with the use of glass. This was preceded by the stripping film—asomewhat cumbersome method of preparing the negatives—the celluloid transparent film being so much superior as to immediately supersede it. As yet, however, the finest results cannot be obtained on transparent film, though doubtless it is only a question of time when the film will largely supersede the use of glass.

The improvements in instruments and lenses have also had much to do with the advancement of photography, and the ingenious devices by which the photographer of to-day, both amateur and professional, is enabled to correctly gather in the image on the photographic plate, have much to do with the success of the art.

It is interesting to note the number of patents which have been taken out on photographic apparatus. We believe there are some hundreds on shutters alone for measuring and minimizing exposure.

Furthermore, the improvement of positive papers and the perfecting of various processes for making prints have materially enhanced the value of the art, greatly increasing the artistic value of photography, and making it possible to produce the most delicate effects, also giving it a wider adaptation and greater field of usefulness.

A retrospective glance at what we have said will show that, after the invention of the camera-obscura, man conceived a longing to devise some ready means of fixing the beautiful picture depicted on the focused screen. Having observed that the sun's light cannot fall upon any surface without leaving traces of its action, even rocks, fences and the bricks in our houses becoming blanched by its influence in the course of time; certain substances

were discovered which were more susceptible to solar light than others. This suggested their use to fasten the image of the camera-obscura. It will be observed that the general principle of the process is (1) the production of a latent image by the action of light on a sensitized plate, called the *exposure*; (2) the *development* of this image by a suitable means; and (3) the final removal of the unaltered portions of the sensitive film by a *fixing* bath. This science is called photography. The development of photography has been the discovery and improvement of sensitive plates which will admit of the shortest possible exposure, and the invention of apparatus which shall form the readiest and best means of getting the picture to the plate.

As to the more general uses of photography most of my hearers are familiar. It is the simplest, quickest, and best means of making pictures of every sort that is known to mankind. It preserves to us, with unerring accuracy, the portraits of our friends and loved ones, views of our homes outside and inside, scenes and incidents of our life's experiences, and a thousand and one other things that from a social standpoint make the work of the camera invaluable to us. So quickly can pictures be taken that restless children crying or laughing can easily be photographed; even the act of kissing, transitory as it is, is sufficiently prolonged to enable a photograph to be made. But movements far more rapid than kissing—which, after all, is not often so transitory—are now seized by this subtle art. Athletes running or performing in mid-air, birds flying, horses trotting, and even the course of projectiles from the cannon's mouth have been photographed with remarkably clear definition. A train speeding at eighty miles an hour can be pictured so as even to show the spokes of the flying drive wheels as though at rest. The lightning's flash, too, is clearly recorded on the wonderful sensitive plate, which feat has been accomplished by one of the members of the Toronto Camera Club. Night itself does not stay the work of the photographic artist, who defies the absence of sunlight and substitutes electric lamps; or he will take pictures of the darkest interiors, cellar or attic, or groups at evening parties, by "flash light."

But probably few people realize the incalculable value of photography to the arts and sciences. The wonders and use of this marvelous science seem almost unending. The human eye barely detects some rays of the spectrum, but the most delicate violet rays, some of which are quite invisible to us, are recorded on the sensitive plate most promptly. This makes it possible to photograph objects unseen by the human eye. Prof. Proctor is said to have photographed a kettle of boiling water in the dark by means of its own radiations.

The astronomer takes advantage of this fact, and stars enveloped in apparent darkness have been portrayed on the photographic plate; the corona of the sun, previously so difficult to study, and then only at times of a total eclipse, is now photographed daily, and thus are recorded the great volcanic explosions which take place there periodically. In many other ways, too, the astronomer's researches are aided by this wonderful art-science. Comets and their erratic movements are accurately recorded; stars of all magnitudes and the phases of the moon are all easily and perfectly photographed.

With his camera the meteorologist

takes daily record of the cloud phases for comparison, and also records the readings of the barometer and thermometer by photography. The geographer and surveyor find the camera an indispensable part of their outfit. The engineer uses photography to duplicate his plans and to watch the progress of his work, because it so readily detects flaws. Engineers in New York have ordered stones to be taken out of viaducts being built in the south-western states because of flaws detected in them by photographs taken and forwarded unbeknown to the contractors, who were at a loss to understand how their bad work had been found out. Physicians record the stages of disease by means of the art, and the larynx, eye and ear have each been photographed. Microscopy and chemistry have alike received a fresh impetus through the development of photography. Bacteria and bacilli are pictured. A fly's tongue measuring but the barest fragment of an inch has been photographed six inches long, and so clearly as to show the hairs and various markings. The secrets of the composition of matter are revealed by photographing the belted zones of the spectrum. In military and naval service the camera is now indispensable. The benefits to the industrial arts are too numerous to mention. There are more than a dozen processes of engraving and lithographing which have photography as their basis. Zinc etching and half-tone engravings have made newspaper and magazine illustration more profuse, more accurate, and therefore more interesting and instructive. The publication of a newspaper in the Chinese language was made possible by photography. It was considered quite impracticable to prepare type for the Chinese language, but an enterprising individual invented the plan of writing out one copy of the newspaper by hand, then photographing it, and reproducing it by one of the ordinary processes of photo-engraving.

It will thus be seen that almost every branch of science has been more or less influenced by the art of photography, and has been greatly aided and become more widespread through its agency. Indeed photography itself may be said to be not only an art, but also a great industry. This phase of photography is one seldom thought of, but it is wonderful to note the large amount of materials that are annually consumed in this industry, and the great number of people who find employment because of its existence. In 1885 one statistician estimates that forty tons of silver and three tons of gold were used in the United States alone in the photographic art. That same year there were 15,000 photographic establishments in the United States giving employment to 50,000 people; but this was eight years ago, and since that time great strides have been made in the improvement of the art. Photographic apparatus is now so largely in demand by amateurs that thousands of people find employment in its manufacture. One firm alone made and sold 25,000 cameras of a single pattern within the last two or three years. These are wonderful achievements when it is considered that a little over fifty years ago such a thing as a camera did not exist.

Photography is a great industry; photography is a great science; photography is a great art. It began simply as a science; to-day it is one of the greatest industries, and, more than that, it is in every sense an art. With Whittier, let us say:

"But welcome, be it new or old,
The gift which makes the day more bright,
And paints, upon the ground of cold
And darkness, warmth and light!"

Toronto Camera Club.

OFFICERS 1892-93.

E. Havelock Walsh, - - President.
A. W. Croil, - - 1st Vice-President.
W. H. Moss, - - - 2nd Vice-President.
Ernest M. Lake, - - - Secretary.
R. G. Muntz, - - - - Treasurer.

Club Rooms and Studio :

Cor. Yonge and Gerrard Streets.

THE secretary has been in communication with the Montreal and Hamilton Camera Clubs with reference to the formation of a lantern slide exchange between those clubs and the Toronto Camera Club. Both the Montreal and Hamilton Camera Clubs have agreed to enter such an exchange, and on Monday evening, the 13th inst., a set of 80 slides from the Montreal Camera Club were shown in the rooms to a large and pleased audience, among whom were a number of ladies. Mr. Neilson very kindly supplied and operated the lantern. Slides by Clarence Lyman, J. Tough, Chas. F. Dawson, Mr. Henderson, Mr. Steinger, Mr. Harries and others were shown. Unfortunately, owing to the set being hurriedly got together, some of the slides had no labels to indicate the locality of the pictures, thus lessening the interest in those particular slides somewhat. The slides were of a high order of merit, and among others "Summer Cottages at Vaudreuil," "Glacier in the Rockies," "Old Fort on St. Helen's Island," and "Moonlight," call for special mention. A picture of a lady sitting on the beach looking seaward and another of four boys jumping over a tennis net, the work, we believe, of Mr. Steinger, were also good. Mr. Lyman's slides were from kodak negatives, and several of his slides were exteriors and interiors of St. Patrick's Cathedral, New York.

The Montreal set have been sent to Hamilton and will be shown there on the 28th inst., and the Toronto set were sent to Montreal and shown in the Montreal Club rooms on the 20th.

The Hamilton camerists are making entirely new slides for their set, which, it is expected, will be shown in the Toronto Camera Club rooms on 10th April and will then be sent on to Montreal.

During next fall and winter it is intended to have a series of these exchanges between the three clubs, and such exchanges cannot fail to be interesting and instructive to all concerned, and "exchange night" next season will see the rooms crowded to the doors with members and their friends.

.....

A Word from President Walker.

The Executive Committee of the Photographic Association of Canada held their first regular meeting at Hamilton on February 27th, all members being present. The first order of business was the reading of minutes of the last convention, which brought to our notice the work of the committee in dealing with crayon frauds, etc. Several letters were read, one from Mr. Stills, but nothing was accomplished beyond enquiry as to what might be done. Mr. Cunningham conferred with one of his legal friends, who gave his opinion that there was plenty of power in the hands of the local corporations to deal with the subject, providing the photographers would see that the laws were enforced, or to have by-laws made to cover their particular case. The matter was left in the hands of Mr. Cunningham, who will confer with Mr. Still and give us a report at our next Executive meeting. The next order of business was the reading of communications. Several letters were read from parties in the United States, who have been corre-

sponded with in reference to giving us lectures and demonstrations at our next convention. Mr. Ryder, of Cleveland, stated that he would be pleased to be present if he could make arrangements at that particular date. I think there is no doubt but that we will have the pleasure of Mr. Ryder's presence. We also received a letter from our venerable friend Abraham Bogartus, who is so favorably known to many of the readers of the St. Louis *Photographer.* If our good brother comes, we will have a jolly good time, as well as hearing something practicable. The secretary has been instructed to write both these gentlemen to arrange further. We hope to see them both present. The by-laws were next dealt with, and it was decided to adopt, in a measure, the American Association by-laws with a few alterations and some additions. The matter will be brought up at our next meeting. The date of the next convention was then dealt with, several dates being proposed. Some were in favor of following the American convention as closely as possible, in order to secure the attendance of English photographers who would visit the World's Fair. Others thought Toronto Fair time would meet the wishes of all, but it was finally decided to hold our next convention on November 1, 2 and 3, 1893. I presume if this date is not thought favorable no person will object to having it changed. The question of prizes was then discussed. The amount of money at the disposal of the committee being a considerable sum (six hundred in all), the matter received careful consideration. After very closely examining a plan proposed by Mr. Cunningham we came to the conclusion that it would meet with general approval both among photographers and plate makers. The plan was then adopted, with a few slight changes. The prize money will be distributed about as follows. (Of course I am only giving this from memory, and I might not be correct.) Compare secretary's report This is the plan: Every exhibitor whose work reaches a certain standard is to receive a portion of prize money, according to the quality of his work, regardless of cities or towns. The better his work, the more money he receives. Everyone will be required to display his exhibit without name or location. The judges will examine the work and mark it according to the following scale, 60 points being the highest attainable number: 10 points each for perfect lighting, posing, printing, retouching, chemical effect and neatness of exhibit. Any exhibitor whose work is awarded 35 points or higher out of the possible 60, participates in the higher division of prize money, which is class A. Any exhibitor whose work is awarded 25 points or more, under 35, participates in the lower division of prize money, which is class B. The competitor receiving the highest number of points of course will receive the highest honor, but his prize money will be no more than the exhibitor who receives 35 points. It is estimated that points up to or above 25 will be worth 50 cents each. The value of a prize in class A, $17.50, or class B, $12.50. Of course this will be governed entirely by the number of competitors. The smaller the number, the greater the value of the points, and *vice versa.* Two hundred and seventy dollars of the funds donated will be distributed according to the above plan; $135 each for Stanley, Star and Eagle plates. See secretary's report and circular for other prizes, rules and regulations, etc. It is hoped that this new

plan and the excellent programme which we hope to put in the hands of everyone will be the means of drawing out a large number of photographers to our next convention.

The idea that only a few participate in the prizes is a thing of the past. The omission of names is also a step in the right direction. It will not be necessary for the exhibitor's name to be known if he does not wish it. The exhibits will be classified by numbers. Come along ; don't be disheartened because you are in a small town ; you are almost sure to share in one of the divisions. Your work would be poor indeed if you could not obtain 25 points of the possible 60. But, entirely apart from prizes, we think it would not pay any photographer to stay away from our next convention, as there will be extra efforts put forth this year to make our convention practical and profitable. We intend to have a lantern slide exhibition, every competitor providing one of his pet negatives, which will be criticised from all points by competent judges while on the canvas. This will be an excellent opportunity for every one to increase their store of knowledge, and you will be able to carry home valuable suggestions, which you could not obtain in any other way, and which we think will more than repay you for your time and trouble. If you would have the next convention a success, take a few hints :

Don't think that the Executive Committee comprise the whole convention ; they cannot do without you.

Don't put off preparing your exhibit until the last minute and then say you did not have time.

Don't expect to receive a large amount of good and give nothing in return.

Don't expect to win prizes unless you run in the race.

Don't expect something for nothing.

Don't say you are not well treated at the convention ; he that would have friends, let him show himself friendly.

Don't find fault with your neighbor and run down his work ; look to your own.

Don't be very friendly with photographers who live at a safe distance and at the same time at sword points with your neighbor.

Don't parade your grievances before the world, but settle them quietly at home.

Don't believe all you hear, but prove all things, and hold fast that which is good.

Yours truly,

J. C. WALKER.

.....

Lantern Slides and How to Make Them.*

BY H. ENGLISH.

IN presenting my paper and demonstration to you this evening on the making of slides for the lantern, as requested by the secretary, it may be I shall not bring before you any new thing, for I have no doubt but that the majority of those present are at least familiar with the first principles of lantern slide making. I shall endeavor, however, to explain the methods employed by me in my work, at which I have had some measure of success, in the hope that perhaps some hint from failure and success may spur each of us on to greater things.

In a former paper, which some of you have seen, I took the ground that, while good negatives invariably make the best pictures, yet from those which by no process of printing a good photo could be made a slide in every respect

*Paper read at the Toronto Camera Club, Monday evening, February 13th, 1893.

as good as from a perfect negative might be had. This I hope to prove by actual experiment this evening.

It will not be necessary for me to explain the handling of the plate for exposure prior to development, as that will be seen at a glance in the demonstration to follow later.

A word as to the best developer. I have tried about everything in that line which has been invented or discovered up to as late as Saturday evening, and the best of all, to my thinking, is the oxalate and iron, as follows :

NO. 1.

Oxalate of potash	1 lb.
Hot water	48 oz.
Acetic acid	3 drams.

NO. 2.

Photo-sulphate of iron	1 lb.
Hot water	32 oz.
Acetic acid	½ dram.

NO. 3.

Bromide potassium	1 oz.
Water	1 quart.

FOR USE.

No. 1	6 oz.
No. 2	1 oz.
No. 3	½ dram.

Develop plate until the image, which should appear slowly, is strong and the lights clear and brilliant, without any trace of fog in the yellow portions of plate. Then, without washing, immerse the slide in clearing solution :

Acetic acid	10 drops.
Water	2 oz.

Allow it to remain in this for about a minute, and wash thoroughly. Then immerse it in fixing bath of hyposulphite of soda, same as for ordinary plates, allowing it to remain for fully five minutes after it is perfectly clear. Then wash at least half an hour in running water, and dry.

Hydroquinone gives beautiful results, but it is slow in action, and few slides can be made in an evening with it as a factor. Eikonogen, while quicker in its working, gives hard results. Amidol, still quicker, has not given me satisfaction, although I have not had any occasion to put an accent before the first letter of its name, for the slides made by it do not deserve to be sworn at. With the oxalate I get rapidity, crispness, and clear brilliant whites, and slides which range, according to the exposure and the negative, from soft greys to purple black. The great objection to this developer has been the tendency to stain the film. If by its use you find any stain on the plates after washing, place them for a few moments in a solution of :

Hydrochloric acid	1 dram.
Water	10 oz.

This will clear them like magic, after which rewash plate in running water for about ten minutes.

Your slide, having been well and properly made, can very easily be marred in its artistic effect, as seen on the screen, by improper mounting ; the covering of the superfluous part of the plate so as to form a harmonious result being especially requisite. Mats of almost any shape and pattern are now sold, and the best and quickest way of mounting same I shall endeavor also to show. It will not be possible this evening to demonstrate the making of slides by reduction, that requiring special apparatus and daylight principally for its use. At the present time I am at work on an apparatus by which I hope to utilize my lantern for the purpose of making slides in the evenings by reduction. Of this I may have something to say on a future occasion.

It is obvious that, whereas we can produce, by contact printing, positives which are perfect in so far as they portray artistically that part of the negative from which they were made, yet, had

we been able to utilize the entire plate, and by the process of reduction brought forth the slide, we should, in almost every instance, have had a much more satisfactory result. If this be the case with 4 x 5 negatives, which we shall use this evening, made with a hand camera, how much more is it apparent when we utilize the larger sizes, which are the result of study and careful selection, as a rule, rather than haphazard snaps by hand.

So much for the theory. We shall now endeavor to put it into practice as in contact printing.

A number of negatives were then shown, and comments made as to the printing qualities, and a selection made of a very thin one which would not produce a good photo, and a Thomas plate exposed less than one second one foot from lamp developed in presence of the audience into a good average slide. Then a good negative was given eight seconds and developed into a first-class slide, after which the ladies who were present selected a negative of a flock of sheep which Mr. English called "A Cosy Corner," and which, he explained, was one of the strongest printers he had. This was given thirteen seconds exposure at same distance from lamp, and the ladies witnessed its being developed, and it proved first-class also. Then the quickest and best way of mounting slides for the lantern was shown, and a number of slides passed around for inspection.

A warm vote of thanks was moved by President Walsh, and seconded by Dr. Powell, to Mr. English for his able efforts, after which Mr. Neilson fitted up his lime-light lantern and some of the lecturer's best slides were shown, together with a number by leading members of the club. The evening was very enjoyable throughout.

Talks in Our Studio.

PRINTING.

SOME time has elapsed since I wrote you, Mr. Editor, on what the Professor had to say on the subject of "Posing," and have been very pleased to find that the ideas then expressed received a warm welcome and were strongly endorsed by other valued contributors to your journal.

A few days ago the worthy we called the Professor came in with his cheery smile, and saluted Joe with, "How goes it?"

Looking up from the printing bench, he answered, "Oh, so, so."

"Hello! so you've got an addition to the staff," said he, as he divested himself of coat and cap, pointing to a small specimen of humanity of the *genus* boy, busy among the frames.

"Yes," I answered; "an apprentice."

Looking rather keenly at me, he, slowly and with emphasis, asked (all the while noticing the lad looking through the frames and bringing them for refilling to Joe), "Are you another of the opinion that anyone can print, eh?"

"Well hardly so; but," in an apologetic tone, "it's not so very hard, and soon picked up."

Something like a sigh escaped the Professor, who said: "Now that's a nice point for discussion, and, as you are not rushed for work just now, I'll take up the cudgels; for, like the proverbial Irishman, I'm always ready for a shindy! That phrase, 'Never mind the prints; the boy will take care of them,' points out, in my estimation, one of the greatest weaknesses in management, besides being an index of a want of appreciation of one of the most important branches of photo-

graphy. It places it not second in importance, but at the tail end of the art. I know the average photographer thinks this way; but, take my word for it or no, you will find the most successful men have always succeeded when making the printing one of the strongest and most efficient branches in their establishments."

"How was it done?" said I.

"This is the way," was the reply. "The printer ranked next to the operator, and in many studios he received the same salary. The proprietor rejected every print that did not give the best results obtainable."

"But that was rather tough, wasn't it?" said Joe, "especially in the wet-plate days."

"You're right, my boy," the Professor replied; "for negatives were more difficult to handle then than now; yet hardly tough. It meant that the printer had to mix everything, as Albert Anderson used to say, 'with brains,' and you never will be a good one till you do. The one who taught me had been chief printer with Elliott & Fry, and he used to recount, with some pride, the facilities placed at their disposal for producing good work, and the encouragement given."

"But," queried Joe, "if you have got good paper, prepare it right, put it on straight, can tell when the print is done, have got a good bath, and tone uniform, don't you get all you want?"

"'Man wants but little here below,' and many printers want very little indeed, in the way of trouble. Now, how do you go to work on printing? Just run through the process."

"All right," I laughingly replied. "First, sensitize your paper——"

"Eh?" said the Professor; "you omitted to select it."

"Oh, yes, just so. First, select a good brand of paper; second, sensitize——"

"Where's your bath?" asked Joe, mimicking the Professor.

"Stop it, you fellows! I'll never get through my catechisms to-night. Third, dry and fume."

"And fume," echoed Joe.

"Fourth, fill your frames," said I, not heeding the interruption; "fifth, print a few shades deeper than the finished print is to be."

"To be," I heard the boy murmur, who had drawn up close and was taking it all in; that is, if the open mouth was any proof. Whereupon I glared at him, and, if looks could, they would have annihilated him on the spot.

"Sixth, tone and fix; seventh, wash; eighth, mount. There," said I, with a sigh of relief at having got so far, "will that do?"

"Very well," came the reply; "only, (and he looked drily up) "don't forget the——"

"Brains," said Joe.

An explosion of laughter followed this. When it had subsided, the Professor said:

"When printing, take up each negative; critically examine it, to see if there are any objectionable points that can be removed—oh, the power of a dab of India ink in the right place!—next watch very closely the first print as it proceeds, and dodge carefully in the meantime, if necessary, for, as you well know, many a shadow prints deeper than expected; in fact, be the operator's right hand. Study well, but don't swallow every nostrum, nor alter your mode of work on every suggestion, because what works well here might be a complete failure elsewhere. I used to get a good deal of chaff in the seventies, when Heighway wrote

that series of articles on printing in the *Photographic News*. They used to say that I lived, ate and slept on those articles. All the same, I took the place of one over me, and for two years did the printing formerly done by two. My recommend to another situation had this in it: 'At printing you will find few to equal and none to excel.' I do not say this in boast, but to show what study can do."

When the Professor concluded we both said "Thanks" simultaneously, knowing full well that he was too modest and unassuming to say what he did for our poor praise.

"What about combination printing?" said Joe.

"Well," said he, "I'd like to talk about that for an hour, but time will not permit. Unfortunately, it is too often neglected as something too tedious to stop over while we rush after the almighty dollar. Bah! what a folly, killing the goose that lays the golden eggs. Take an instance that happened in this county. A 14x17 group was brought me to frame—a fair picture, as they go; the posing as usual, three sitting and three standing; well retouched, if making pretty faces is right. But the worst part of the performance was this: One young fellow having made a lateral movement, the 'artist' (save the mark!) had made an extra negative of said individual, printed it to correspond in depth and color, cut the head out, and pasted it over the move. Result: Such ears!—none too small in the original."

"What did the people say?" said I.

"Say? Well, look around for a new dictionary, and perhaps you can find a few of the words; they're not in any we have. Now, a little labor and——"

"Brains," said Joe.

"Would have made a passable photo, instead of an——"

"Abortion," I put in.

"Yes, boys," he said, as he drew on his overcoat; "a good, intelligent printer is, like Solomon's model wife, above rubies. There! Au revoir! I see Mrs. P. looking in to see if there is such an individual as the one named the Professor making an exit from the studio."

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Our Question Box.

J. N. asks:

(1) What is the best method of loosening a lens mount that resists all ordinary persuasion by strong hands without injury to lens? (2) Why is it that a reliable Ferrotype dry plate is not obtainable and wherein lies the difficulty preparing same as compared with ordinary negative dry plates?

Ans.—(1) Turn a piece of wood on a lathe to fit lens tight, then put lens on the chuck and bring the two together and you can get it loose at once if you turn the right way, or a simpler way is to drop two or three drops of Coal Oil on the thread and let stand for a few hours. (2) The difficulty in making a good Ferrotype dry plate appears to be in getting an emulsion that will be white enough when developed and fixed for the high sights.

B. J. J.—The outfit you speak of is all right, you could not do better.

B. J. writes:

(1) I am using a silver bath wet plate process, my negatives are covered with pin like holes after developing. (2) I filtered them through filter paper and they were worse than ever, the surface of the negatives showed in needle like crystals before exposure, how can I remedy this.

Ans.—(1) Your bath was probably charged with Iodide of silver in excess

and bath at a high temperature, which caused the Iodide of silver to collect on the plates, if you used filter paper containing salts of Sulphuric Acid, Sulphate of silver would form, and stick in needle like crystals on your negative in the bath. Remedy for (1)—Dilute with twice its volume of water, filter through cotton batting in the funnel, and boil down to original strength. (2) Use pure filter paper or cotton batting, the latter we always find the best.

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A Few Opinions on "Our Question Box."

"Your inquiry department is a distinct advance which ought to prove of the greatest benefit to photographers generally, it certainly enhances the value of THE JOURNAL largely."

JNO. NICHOLSON

Boissevain.

.....

"Keep it up, its a good move and I hasten to take advantage of it."

AN AMATEUR.

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A Quebec photographer writes:—"I have always considered the 'answers to correspondents' column one of the most interesting and instructive in a trade journal—and your JOURNAL will now have an added interest for me—I hope it will be well patronized."

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Death of Mrs. Gillespie.

THE sympathy of the Journal is extended to Mr. George Gillespie of Shelburne, in the sudden loss of his esteemed wife, by death on March 14th.

Mrs. Gillespie was only sick some six days and was not considered to be dangerously ill until the day of her death when she grew suddenly worse and sank rapidly to the end.

The funeral took place on the 16th.

Personal Mention.

MR. R. Dukelow, of R. & M. J. Dukelow of Brockville, is spending the winter at Albany, Ga.

A circular received received from the Dukelow gallery offers to furnish a life size, framed, mezzo-tint and a dozen cabinets for $10.00.

They having, we understand, secured the exclusive right for their town and vicinity for the production of the mezzo-tints.

MR. S. J. Jarvis of Ottawa, G. B. Sproule of Peterboro, and
of Montreal, were among the photographic visitors to Toronto in February.

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MR. Sharpe of Mulholland & Sharpe, has returned from spending a few days each in New York city, Rochester, Buffalo, and Bloomfield, and Orange New Jersey. Mr. Sharpe reports having secured several new things for the Canadian market.

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MR. Anderson of the Anderson, Robinson Co. was in New York city a few days last week in the interests of his Star and Eagle dry plates. The policy of this enterprising company is to make their plates the best at any cost.

.....

Imagine a 4 x 5 folding camera that is thoroughly practical, that can be used with plates or roller holder and is in size, only 4¼ x 5½ x 9 inches. This wonderful box is made by the Rochester Camera M'f'g Co., of Rochester, N. Y., and any one wishing a 4 x 5 outfit should certainly write this Company for particulars or see the one now on exhibition at Mulholland & Sharpe.

An earnest invitation is extended to every Canadian photographer, by the Association, to send exhibits and to attend the convention. We hope a large number of our many good photographers will accept the invitation to exhibit, and we shall expect to see some of the prizes come into Canada. It is quite evident already that the attendance from Canada will be large, this, with the numerous party coming over from England, and the immense attendance of American photographers, warrant the statement that this will be the largest and most representative photographic convention ever held.

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The new "White Label" Stars of the Anderson, Robinson Co.

In order to class the speed of their Star plates, the Messrs. Anderson, Robinson Co., have adopted a new label—white ground and red letters—very showy and attractive.

Hereafter, their fastest plates of about 40 sensitometer will be known as White Label Stars and the regular Star plates of about 30 sensitometer, continued as before and known as Red Label Stars. This is a good move, enabling them to maintain a greater uniformity and to furnish a plate, the speed of which will equal any plate made.

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World's Fair Notes.

The British Section at the World's Fair will be decorated in part by some seventy banners bearing respectively the arms of different municipal corporations in the kingdom, such as London, Edinburgh, Dublin, Ayr, Canterbury, etc. The British Royal Commission invited the corporations to furnish the banners, and some loaned those they possessed, while others had their official insignia reproduced for the occasion.

In the Fine Arts exhibit at the World's Fair will appear three pictures from Windsor Castle, loaned by Queen Victoria, and several from the Prince of Wales' collection.

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Visitors to the World's Fair from England and Canada will have the opportunity of enjoying the comforts and privileges of a first-class club during their stay in Chicago. The British and Canadian Exchange Club has recently been incorporated and has engaged commodious rooms. on the second floor of the Auditorium. S. Ferd Howe is the managing director of the club, and the project has the approval and assistance of Director General Davis, Lyman J. Gage, Ferd W. Peck. Gen. Groner, Col. McKenzie, Major Handy, Judge Gresham and other prominent persons. It will be an Anglo-American club, a limited number of Americans being admitted to membership. The club's quarters in the Auditorium include gentlemen's reading, writing, reception and smoking rooms; ladies' drawing, reception and toilet rooms; postoffice and information bureaus, offices, etc. The reading room will be well stocked with American, English and Canadian publications, and excellent facilities will be afforded for social intercourse, reception and dispatch of mail, cashing of drafts, providing hotel and other accomodations, selection of routes of travel, and in short, nearly everything foreign visitors may desire. The club will be opened on March 1, and maintained until the end of the year.

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The winning exhibitors at the *World's Fair* will each receive a bronze medal and a handsome diploma, setting forth the specific purpose for which the

medal was awarded. Provision will be made, it is expected, for 75,000 medals and diplomas.

N.B. We had the words "World's Fair" put in *italics*, for fear some of our readers might think a Photographic Exhibition was meant from the number of medals given.

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The Chicago Convention.

SEVERAL good reasons why every enterprising photographer should get up an exhibit for the Convention, held at Chicago, July 18th, to 21st, 1893.

It will give you a practical experience that will many times repay you for your outlay and time.

It will give you splendid display pictures for your studio.

It will show your patrons that you are fully up with the times and you thereby strengthen the confidence that they have placed in you.

It will be the means of improving you in the art of photography. Educate your patrons to distinguish the difference between high class work and the average kind palmed off on the public at large, and will naturally help you to get good living prices for your productions.

Exchanging of ideas must leave its mark every time.

The awards for this year are numerous and are well worth working for. The officers have nothing to do with the appointment of judges. This will do away with the cry of "favoritism," "one in the ring," etc. Each one has an equal chance and work will count.

To those who have not competed heretofore, I would urgently request to do so this year. Think of the great benefit you would derive. Coming home from the World's Fair Convention—victorious, bringing a prize—be it what it may. Your patrons will feel justly proud of you. The consequence will be artistic and financial gain.

To all those who have competed before and have been unfortunate in securing an award, do your best work and try again.

To stand still is going backward. If you do not wish to compete for a prize, send your work for comparison, and mark it "not for competition." It will help to educate and elevate those possessing less experience, and furthermore will do us all a wonderful amount of good.

Don't stand back because you think some one else does better work. But get up the best display you can for the Convention, and by comparing you will learn to perfect yourself. And if at first you don't succeed, try, try, again.

In conclusion I can assure you the public will stay with you and good work.

Any information pertaining to the Convention, will be cheerfully given, by addressing.

Yours fraternally,

ADAM HEIMBERGER,

Sec. P. A. of A.

NEW ALBANY, IND.

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Godwin vs. Eastman.

A PAPER containing the following has been sent us:

"The Rev. Hannibal Goodwin, recently rector of the Protestant Episcopal House of Prayer, Newark, has received word from the Patent Office at Washington that a decision has been given in his favor, in the contest with the Eastman Dry Plate Company, of Rochester, as to which is entitled to the right of a patent for the celluloid photographic films used in the kodak cameras. The suit has been

pending over two years, and the result means a fortune for Mr. Goodwin, as the decision sustains him in every point. Mr. Goodwin, owing to overwork, resigned the pastorate of the House of Prayer six years ago, and began experimenting in chemistry, one of his discoveries being the film over which the contest just ended was made.—*New York Tribune.*"

The following letter from the Eastman Kodak Co. tells their side of the story:

"ROCHESTER, Feb. 22, 1893.

"Dear Sir,—You will probably receive a notification that the patent suit brought by the Rev. Hannibal Goodwin, of Newark, *vs.* the Eastman Kodak Company, to establish his patent right to the celluloid film used by the company, has just been decided in his favor.

"The article as sent out is very misleading, giving the idea that this decision is final, when as a matter of fact it is merely the decision given on the preliminary hearing before the patent examiner, and is entirely unimportant.

"This interference involves only one of the many patents which together control the Kodak system of film photography. The primary examiner has decided that Reichenbach was not the inventor. We still have the patent, however, and expect that the decision will be reversed by higher authorities. In case it is not and Mr. Goodwin should get his patent at some future time he would still have to establish his rights in court. But even if successful there he would not be enabled to make our film, which is covered by several other and much more broader patents. Neither would he be enabled to prevent our making transparent film, as we are able to make it without the ingredients involved in this interference.

"Should you feel that the matter is sufficient importance to demand a place in your esteemed journal, please be kind enough to present our side of the case as well as Mr. Goodwin's.

"Yours truly,

"(Sgd), EASTMAN KODAK COMP'Y.

"By L. B. Jones."

.....

The New York Aristotype Co's New Factory.

A very pleasant day was spent by the writer lately, in going through the immense, new factory, lately erected by the New York Aristotype Co., for the manufacture of their "N. Y." and Kalona Brands of paper, at Bloomfield, New Jersey. The firm have spared neither pains or expense in making the new factory the most complete of its kind, and it is now as complete as modern ideas and inventions could make it.

Starting from the large, roomy office finished in hardwood, we pass through all the numerous departments, filled with busy men and women, stopping to notice a new labor saving machine, or to stare in amazement at the wonderful complications of the machinery of the coating room almost entirely the invention of one of the firm and at present turning out *two miles* of finished paper each day. We then pass through the immense drying room, at the end of which stands the cutting machines into which the paper is fed as soon as dried, then through into the sorting room filled with long rows of girls all busy sorting out the paper into firsts and seconds with great care. Next we find the paper being packed and labeled, the boxes being made by machinery in the adjoining room. We then pass through the shipping room and store room with its hundreds of

cases of imported paper, waiting to be dressed up into "N.Y." or Kalona, and after a short visit to the laboratory, the experimenting room, testing room, etc., we are shown into a separate building containing the big engine necessary for generating the large amount of power required to move all the machinery used, also the motor which furnishes the electric lighting for the building, reaching the office again, we find it has taken us several hours to "glance through the works" so after admiring some beautiful specimens of work done on "N. Y." and Kalona papers, and receiving a neatly gotten up invitation to the inaugural ball which took place at the factory on March 10th, we left the Messrs. Cassitt with our ideas of the immensity of photography as a business considerably enlarged by having had a peep into only one of the many factories that are to-day engaged in manufacturing necessary material.

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Buying Pictures.

THE rules that should prevail in buying pictures are made the subject of an interesting chat in the Philadelphia *Times*. Chromos and cheap prints are, of course, left out of the discussion, and the suggestions offered are valuable only to those who have the means and disposition to purchase paintings that come properly under the head of artistic productions. It may be said, in a general way, that the primary object of hanging a picture is to please the eye and gratify the taste for beautiful things. There are, of course, people who merely desire to cover the walls of their mansions in a manner that shall be conveniently proper, that shall indicate wealth, and that shall not offend taste or propriety. In such cases pictures are estimated in no higher sense than carpets, tables, and chairs. Excluding this class of picture owners, we come to those who really have a love for art and the opportunity to gratify it, but who may be distrustful of their ability to discriminate between what is good and what is inferior. Miss Emily Sartain, of the Philadelphia School of Design, seems to have some sensible and practical ideas on the subject. She says "pictures are to contribute to the personal enjoyment of their owner, and he should dare to buy what he likes." She thinks that a critical taste may be cultivated in this way much more rapidly and effectively than by relying on the advice of acquaintances and connoisseurs, and adds: "If you dare to buy what pleases your eye, study it, drawing mental nutriment and knowledge from it; your next purchase will register the advance in thought and cultivation you have made. Personal power to reject poor and welcome good work will be strengthened and become more confident of the justice of its own criticisms; and one more art lover will be added to an appreciative public sensitive to merit."

The commercial aspect of picture buying was discussed by Mrs. Alice Barber Stephens, who spoke of the influence of the dealer on purchasers. She said: "To a great extent pictures are bought and sold as mere real estate. The prominent query uppermost in purchasers' minds is, 'Will it be a good investment?' How are we to educate the public sentiment above market values? The current exhibitions are doing much to keep good art before our eyes, to enrich our knowledge, and cultivate popular taste."

A good word for young artists was spoken by Miss Dillaye, who said: "People buy more because of the sig-

nature attached than from real knowledge; and an impressionist picture becomes the property of an owner who never understands it, nor is capable of judging its merits or faults. Consequently the younger and perhaps worthier artist has no opportunity to sell his work. Many efforts of those with a less widely established reputation are really far superior to the works of the older school, for they reflect modern methods, fresh ideas, and a better scheme of color." There is undoubtedly a great deal of truth in these observations. But the effect of growth in education and culture should be to stimulate independent judgment and encourage the aspirations and efforts of young artists. This will be a good thing, for the possibilities of American landscape painting have hardly begun to be developed. The natural scenery of this country offers rich and practically inexhaustible themes for the painter's brush. The growing abundance of art galleries, exchanges, and exhibitions, is doing much in an educational way, and as picture buyers use their powers of observation, gain confidence in their own taste, and accumulate the courage to please themselves, the cause of true art will gain in the aggregate, even if the wisest choice is not invariably made.

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Photographers' Association of America.

CONVENTION AT CHICAGO, ILL., JULY 18, 19, 20 AND 21, 1893.

THE next Convention of the Photographers' Association of America will be held at Chicago, Ill. 2nd Regiment Armory, Washington Boulevard, on July 18 to 21 inclusive, and all photographers and those interested in photography are earnestly requested to attend whether as exhibitors or not, and you will surely find it of great advantage.

The objects of the Association are:

The advancement of the art of photography.

The elevation of the professional character.

The interchange of ideas and methods for a higher and more perfect and profitable system of conducting the business.

The diffusion of scientific knowledge among its members by fostering photographic literature, stimulating discovery and inventions (by numerous and valuable awards and prizes,) and the encouragement in all legitimate ways of the broadest and highest possible range of photographic production.

To inaugurate exhibitions of photographic work on a scale commensurate with the progress of art.

Also, the exhibitions of new inventions in photography, as well as the latest improvements in the same, offer a special opportunity to take advantage of the best methods for successfully meeting the public's demand for photographic work. Will not the support of an Association with such principles be of advantage to you?

There is always something new and many photographers owe their success to ideas and methods (never dreamed of before) learned at the Convention.

It was with the greatest difficulty that a suitable Hall could be gotten during the World's Fair, but by beginning in time an exceptional well lighted Hall was secured, but space for display is very limited as a very large collection is expected, it would be well for Exhibitors to limit the number of pictures, as awards are given on the largest display.

Special rates from every point in the United States will be given during the

World's Fair, consequently its unnecessary for Executive Committee to make further arrangements during the Convention.

Chicago offers exceptional advantages for holding the Convention. It is not necessary to inform the fraternity of the exceptional advantage of holding the Convention during the World's Fair, as every one is going to the World's Fair, and at the same time attend the Convention, every arrangement is made to make this the World's Fair Convention the greatest ever held, as will be seen from the awards offered, that there has been a very liberal classification, so that every one has a chance to secure an award, and it is hoped and expected that there will be a ready response so that long before the Convention opens a knowledge of what is to come will enable the Officers to be fully prepared for all entries. Many will be proud to carry home a Prize from Chicago at the World's Fair Convention of Photographers Association of America.

TO BECOME A MEMBER.—Any photographer, or employee of good moral and professional standing may become a member by sending $5.00 if a proprietor, or $2.00 if an employee, (which pays entrance fee and dues,) to the Treasurer, G. M. CARLISLE, No. 229 Indiana Ave., Washington, D. C. If already a member kindly remit your dues $2.00 and by so doing avoid waiting your turn at the entrance when you arrive at the Convention—as none can be admitted whose dues remain unpaid. Become a member and get the benefits of the art lectures, practical talks, the grand exhibition of photographic productions from all over the world, and extensive stock exhibits. So much space in the Stock Department having already and so rapidly been taken by the leading manufacturers and dealers in photographic supplies, indicates a Grand Convention.

July is an appropriate time to hold the meeting; so take a vacation, attend the Convention, reap the multitude of advantages derived therefrom, and upon your return home you will find that you can use the new and beneficial ideas in your business with great profit professionally and financially.

The following is a complete list of prizes and rules governing exhibits:

AWARDS FOR, AND RULES GOVERNING EXHIBITS AND SUGGESTIONS, TO ALL EXHIBITORS IN THE ART DEPARTMENT.

List of awards for 1893 are as follows; The Grand Prize will be a Statue, governed by the following rules and regulations:

Competitors for this award shall exhibit three plain Photographs, illustrating Lucille, by Owen Meredith.

The size to be not less than 13 or more than 22 inches in length.

The pictures must be framed either with or without glass. The award to be made for the most meritorious collection.

A diploma will be awarded for the second best collection.

Class A.—A Diamond Badge for the best exhibit of genre photographs.

Competitors for this class shall exhibit six photographs. The subjects are to be chosen by the photographer and appropriately inscribed; size to be not less than 13 or more than 22 inches in length, framed, with or without glass. The award to be made for the most meritorious collection.

A diploma will be awarded for the second best collection.

Class B.—One gold, one silver and one bronze medal, for the best collection of portrait photography, size 14 x 17 inches or larger.

Class C.—One gold, one silver and one bronze medal, for the best collection of portrait photography, size 11 x 14 inches or smaller.

Class D—One gold and one silver medal, for the best collection of landscape photographs.

Class E.—One gold and one silver medal for the best collection of landscape photographs with figures introduced.

Class F.—One gold and one silver medal, for the six best plain enlargements, either in silver, bromide, albumen, carbon, or platinum; the size to be no less than 18 x 22 inches.

PRIZES FOR EMPLOYEES.

Class G.—One gold medal to the operator making and exhibiting the three most artistic photographs, size to be not less than 13 or more than 22 inches in length.

Class H.—One silver medal and one diploma to the retoucher for the best set of six retouched negatives with prints before and after the negative is worked up.

Class I.—One diploma to the printer for the most artistic printing, six prints to be exhibited.

Class J.—One diploma for the best improvement in photographic appliances introduced since the last convention.

Class K.—One gold, one silver medal and diploma for the best foreign exhibit of portrait photography, framed or unframed, delivered to the association free from all charges.

Exhibits in this class will be admitted to the United States free by sending the same directed to Adam Heimberger, 2nd Regiment, Armory, Washington Boulevard, Chicago, Ill. Secretary of the Photographers' Association of America.

A diploma will be awarded for the most tastefully arranged exhibit.

Competitors for the Grand Prize or Class A cannot enter in Classes B or C.

Competitors in all classes except Class K must be members residing in the United States or Canada.

Entries to close on Saturday, previous to the opening of convention.

No space to be allowed after that time for exhibits.

All exhibits must be shipped so as to reach the exhibition building by July 17th, and all charges MUST be prepaid.

The competitors in each class to select three judges.

The Executive Committee to select the judges in classes J and K and prizes for employees.

After the awarding of prizes each competitor to receive the judge's report of his display.

Should any exhibitor influence in any way, directly or indirectly, the judges, during their term of office, in favor of any exhibit, it shall be the duty of the judges to strike their exhibit or exhibits from the lists.

RULES GOVERNING THE JUDGES IN THE GRAND PRIZE.

The points to be considered are: 1st, Historic; 2nd, Originality; 3rd, Composition; 4th, Lighting; 5th, Technique.

Ten marks to be the highest for any one point, consequently 50 marks the most that can be given for any one picture.

The standard of this award must be 35 marks out of a possible 50.

RULES GOVERNING THE JUDGES IN CLASS A.

The points to be considered are: 1st, Originality; 2nd, Composition; 3rd, Lighting; 4th, Technique.

Ten marks to be the highest for any one point, consequently 40 marks the most that can be given to any one picture.

RULES GOVERNING THE JUDGES IN OTHER CLASSES.

The points to be considered are: 1st, Lighting; 2nd, Posing; 3rd Chemical Effect; 4th, General Effects or Finish.

All photographs exhibited must be from negatives since last convention, held at Buffalo, N. Y. 1891.

All Art exhibits must be sent to Adam Heimberger, Secretary Photographers' Association of America, care of 2nd Regiment Armory, Chicago, Ill., all charges prepaid.

Exhibits for the stock department to be shipped in care of Adam Heimberger, Secretary Photographers' Association of America, care of 2nd Regiment Armory, Chicago, Ill., and placed in position by 10 a.m., July 17, all charges prepaid

As will be seen from above notes, there has been a very liberal classification of art productions and awards for same, and it is hoped and expected that there will be a ready response, so that long before the Convention opens a knowledge of what is to come will enable the officers to be fully prepared for all entries that each one may be properly classified and hung.

I would request all exhibitors to send with their work screw eyes and cord, so that the committee may not be put to trouble and expense, as it is the plan to have all exhibits hung before the opening of the convention, thereby saving noise and time and having all members in attendance at the business session. It is very natural for all to postpone sending exhibits until within a few days of the opening of the Exhibition; but arrangements

will be made at the railroad stations in Chicago to hold anything sent until the proper time to send them to the hall, so that none need feel any uncertainty about the safety or disposition of the same.

Have your box covers screwed instead of nailed; put your home address on under side of box cover for return of pictures; help your committee all you can by promptly forwarding entries and exhibits. There is enough for them to do even if these rules and suggestions are fully carried out.

The Executive Committee are very desirous of having this Convention the best ever held, and earnestly request that at this, the World's Fair Convention, every one will make an extra effort to have a finer display of Artistic Photographs than has been exhibited in the past.

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[*From Photography.*]

Multiple-Coated or Multiple-Film Plates.

BY GREGOR GRANT.

This difficulty, however, has been got over by Mr. Sandell, who hit on the plan of coating the plates twice—a process heretofore considered impossible—first with a slow emulsion and then with a rapid one, his contention being that while the shadows were properly exposed on the upper film the high lights would solarize it, and, penetrating to the lower, correctly expose that, and if the exposure were then increased, the high lights would entirely reverse the top film, converting it into a positive, and the greater the over-exposure the denser the positive would become, counteracting in its effects the fuller exposure of the under film; meanwhile, if the shadows were not very dark they would, as they lessened the pluck of the "embryo" image of the upper film, form an under-exposed, and therefore plucky, one on the lower, and the weaker the one became, the stronger would become the other, and the two together form a good negative.

Thus, on a correctly exposed plate with heavy contrasts in it (and it is for this kind of view that the Sandell plate is meant), there would be on the upper film shadows with the correct exposure and high lights solarized, and on the film beneath clear unaffected film below the correctly exposed shadows, and correctly exposed film below the solarized high lights; and, in case of the "pseudo," over-exposed plate, the shadows would be rendered by a negative lacking in contrast above, and one with violent contrasts beneath, and the high lights by a positive above and a dense negative beneath; the combination of the two images, in each case, giving as a result a properly balanced negative of more or less density according to the amount of exposure the plate has received. In all cases, little or no light would go beyond the second layer of gelatine, and, therefore, none could be reflected from the back of the glass and cause halation.

This, then, being the theory of the Sandell plates—the only multiple-film plates at present in the market—it now remains to be seen what they will do in practice, and I must be egotistical enough to commence with a description of my own experiments, but only because I am the best acquainted with them. They may be interesting to some here, because made by one who knew nothing and consequently committed every possible error of exposure, *i. e.*, of giving too little, too much, and what proved more fatal than either—singular though it may sound—a mean between the two.

On starting for my holiday this summer I determined to take a dozen ordinary Sandells with me just to see what I could do with them. As I only got the plates the very day I started North, I was unable to make a single

test exposure before starting, so had only the verbal advice of our accomplished president, Mr Pringle, to go upon, and this I completely misunderstood, with the result that I went away under the belief that the correct way to treat the plate was to grossly, *i. e.*, many times over-expose it, so as to reverse the top film, which was afterwards to be got rid of by stripping. As a result of the misunderstanding I managed to secure nine good negatives out of my dozen plates, and might have had ten but for losing one through stripping when I ought to have reduced. This, it must be admitted, speaks very well for the plates. As a basis for my exposure I took what I considered a full exposure for a Thomas' thickly coated landscape plate and multiplied that by ten to make sure of over-exposure.

The first view I took was from a hill path looking back over the town below towards the mist-covered hills beyond; a bright morning sun shining over my shoulder was clearing the mist from the mountain peaks of the Trossachs and the whole landscape was yet hazy. I considered that a T. C. L. would have stood half a second at *f*/16, so I gave five seconds. On development the upper film darkened all over at once, and development was continued for about three-quarters of an hour, when the image was distinctly and evenly visible on the back of the plate. I fixed, and then stripped the top film off, and found a fully exposed negative on the lower. The second plate, which was an identically similar, though not the same, view, but with only seven and a half seconds at *f*/22, I treated likewise, but found the image on the lower film too under-exposed to be any good, but the plate would probably have been saved had I reduced instead of stripping. As there were no great contrasts in either of these views, they were merely a test for length of exposure, and as such I will refer to them later on. As another test for length of exposure, I exposed two plates, a Cyclist and a Sandell, on the same subject, a group of old tombstones lying flat, under precisely the same conditions, giving the latter as many minutes as the former seconds—in each case one-half, or a comparative ratio of 60 to 1. Between the two results you will see there is little to choose; the Sandell is the denser of the two, has more detail in the shadows, but is somewhat stained with the reducer. Three other views had dark foregrounds, a mountain distance and clouds; in one the sun was in front of the camera, and shining between fir trees on either side of the picture, throwing their trunks into deep shadow; between them was a distant mountain peak, Ben Vhorlich, some eighty miles off, and brightly lit clouds. In each case the clouds printed well, and in this one the detail in the trunks of the fir trees was not lost. This, I think, shows the plates capacity for rendering contrasts.

Two other views of the same kind I unfortunately lost through giving an exposure, too much for the upper film, yet insufficient to penetrate it, which seems to be the only thing fatal to a Sandell. Yet I believe that had development been either proceeded with more cautiously or carried further, say after stripping off the upper film, that a printable negative might have been obtained.

Still, two others which I exposed in a deep glen—one in which I believe a camera had never been before—with exposures that I considered sufficient to penetrate to the lower film, gave fully exposed but good images on the upper,

which did not require reduction. All the plates were developed with Thomas's new developer, "Cyclol," which, I am told, is a mixture of hydroquinone and eikonogen, and, with the exception of the two I lost and the two mentioned as taken in the glen, development was pushed till the image appeared well marked on the back, and reduced to the required density with ferri-cyanide of potassium and hypo.

I will now pass on to experiments not made by myself, but the results of which I have seen, and with the *modus operandi* of which I am quite familiar. The subject of one, which was conducted in the presence of Mr. Sandell himself, was a drawing-room, facing south, a large window with lace curtains in the centre of the picture, and beyond it a glass passage, and beyond that again the garden landscape, lawn and trees. It was found that the correct exposure for a Paget plate was two minutes—the Sandell was given twenty minutes—the room was darkly lit, the sun was shining brightly outside. In result the Sandell showed a decided superiority over the other, there being complete detail in the interior, no trace of halation round the window, and the landscape without still clear and printable.

Another trial had for its subject one which might be said to have been made to give halation all over the interior of a vinery, with a blazing sun shining in patches through the openings between the leaves onto bunches of green grapes. Several exposures were made, varying from two seconds to four and one-half minutes. Most of the resulting negatives were good, and none showed any trace of halation whatever.

From the foregoing experiments I think it may be held that, with proper treatment, the Sandell plates do meet the claims made for them by their manufacturers, viz., freedom from halation and capacity to stand an abnormal and almost indefinite amount of over-exposure.

Doubtless the question will be raised, "Does the Sandell plate possess any advantages under ordinary circumstances?" The answer is a simple one—most emphatically, No! But when you come to interior work, or views with great contrast in them, or where the required exposure is unknown, and cannot be guessed at with any degree of certainty, then as emphatically, Yes! For all that is necessary to ensure a good negative is to be quite certain that sufficient exposure is given. How much too much does not appear to matter in the slightest, for, provided the upper film has received sufficient light to correctly render the shadows, the quality of the resulting negative lies in the hands of the operator.

The Sandell plates are made in two qualities — the "General" with two films, and the "Especial" with three, the rapidity of the top film in each case being the same, and the required treatment exactly similar. The rapidity, however, has been very much overstated, one authority contending that half a second at *f*/64 under trees was sufficient. I am inclined to place it somewhere between that of an Ilford ordinary and a Thomas's E. R., or about Warneke 20.

As to treatment, I cannot say more than to summarize my previous remarks in various parts of this paper.

The old wet collodion rule of "expose for the shadows, and let the high lights take care of themselves" seems to apply well; give the exposure that you think would best render the shadows on a plate of moderate rapidity, the high lights will then accommodate themselves somewhere in the "sub-

strata," the great point to bear in mind being that if more exposure be given than the shadows will stand on the top film, then a great deal more must be given, or the plate will be lost, by which is meant that if x represent the correct exposure, then $2x$ or $3x$ will mean a flat and what would ordinarily be termed a hopelessly over-exposed plate; but if $50x$ or $100x$ be given, then there is every chance of securing a good image if development only be carried far enough.

As for the developer, hydroquinone, or eikonogen, or a mixture of the two, such as "Cyclol," or "Hintoquinone," seems the best, "Cyclol" being recommended by the manufacturers and giving excellent results. Ammonia should be avoided, for as development is necessarily long—at any rate in comparison to the exposure—for part of the plate at least, it causes a fogging of the more sensitive film quite different to the increased density caused by the other developers consequent on excess of light action. Another great point to bear in mind is that the greater the exposure that has been given, the further must development be carried, not by strengthening the developer, but by patience, for it takes a long time for the developer to soak through to, and act upon, the lower film.

The question will doubtless be asked, How is it possible to tell which films have been affected by the exposure, and by what symptoms can development be regulated? This is not so difficult a matter as would at first appear. As with all other plates it is best to commence cautiously, and with a developing solution of moderate strength; if the shadows remain fairly clear it is safe to conclude that the plate has not been over-exposed, and development should be carried on the same as with an ordinary plate, judging of the density by the appearance of the surface of the film and by transmitted light, for nothing will show on the back of the plate, except, perhaps, some very brightly lit portion—which should do so. If, however, the top film completely fogs over, the plate has been over-exposed, and development must then be continued for about half an hour, or until the image shows plainly on the back of the plate; by transmitted light it will then appear perfectly opaque.

The plate is then, in either case, fixed in the usual manner, care being taken that it is thoroughly fixed. The correctly exposed plate now presents the appearance of an ordinary negative, but the other is still opaque, and must be reduced, or if, before fixing, the image appeared evenly all over the back of the plate, the upper film may be stripped off—that is, if the operator feel competent to do so successfully, for it will have received such an excess of exposure as to yield a complete negative on the lower film, and render the top one superfluous. But stripping is risky work, and its only advantage is that it obviates the danger of reduction stains.

A prominent theorist, Mr. Lyonel Clark, has suggested that a possible failing of the plate's action would be a break in the scale of densities, by which is meant that the upper film might be of the rapidity to correctly render the shadows and to lower the high lights, but the half-tones would act on both films and produce an area of undue density; this, however, is only a theoretical failing, for, as a matter of fact, half-tones are rendered with great beauty. Mr. Lyonel Clark further suggested that, to overcome this failing, a plate might be coated with a succession of films, each more rapid

than the one below it, but this would on the face of it be useless, for no light would reach the lower films at all.

At a recent meeting of the Camera Club, Captain Abney described a modification of the Sandell plate to be used for spectrum photography, in which the upper film is isochromatic; the action, however, remaining to all intents and purposes unaltered.

The blue or chemical rays solarize the upper film, and are rendered by the lower, while the red rays act on the isochromatic film only, leaving the other untouched.

The scale rendering of plates thus coated is said by Captain Abney to be exceedingly good, and if by multiple coating a plate can be produced that will render by one exposure all the different color grades of the solar spectrum in their due gradation of tone, and not only those which are visible, but also the ultra-violet and ultra-red rays which are quite invisible to the eye, it must be admitted that the multiple-film plate is a step in the right direction, and that by its invention Mr. Sandell has added one more stepping stone to those by which we photographers hope to cross the flood of difficulties that flows between us and the certain production of an ideal negative.

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Photographing Paintings by Artificial Light.

BY W. E. DEBENHAM.

IN photographing paintings by artificial as by any other light, some of the things most important to be observed are the avoidance of reflections which would dim the shadows, and, so far as possible, to avoid bringing into prominence the irregularities of surface of the picture. The general principles of lighting the subject to be copied, and particularly that of the angle at which light should fall upon the picture, in order to escape interferences from both the causes mentioned, have been dealt with in a paper, "Avoiding Reflections and Granularity in Copying," read before this Society in 1884, and published in the journals of December 19th in that year. There are some points, however, in connection with artificial lighting that should be particularly noticed.

When photographing a picture of moderate size by daylight in a studio of fair dimensions, the difference of angle at which the various portions of the picture receive the light falling upon them need not be great. With artificial illumination it will often be thought desirable to economise the light by bringing it near the picture, and then the various parts will receive the light at very different angles; so much so, that it may be difficult or impossible to so arrange it that some part shall not suffer from either reflections or a lighting up of the prominences caused by irregularities of surface. With oil paintings particularly, there is a great liability to the reflection from the side of each irregular elevation of surface that is inclined towards the source of light, and which has been mentioned in the former paper as the blankety texture sometimes seen near the top of a copy, or along the edge which is nearest the light. It was pointed out that reflection occurs when the angle of incidence of light falling on any part of a picture having a glossy surface, is such that the returning angle will fall upon the lens. It was shown also that the angle must not be taken merely from the general surface of the picture, but from the inclined surfaces of the irregularities

existing upon it, and that this consideration involves having the source of light at a greater angle from the axis of the lens than would otherwise be necessary.

When working with the light near any but a very small picture, two kinds of difficulty arise. In the first place, as the light must not be close to the lens, on account of the reflections that would be introduced, but must come from a considerable angular distance, it it is obvious that the part of the picture nearest the light will receive more illumination than the opposite side. This difficulty may be minimised where the direction of light will not interfere with the painter's attention, by a second light from the opposite side. Another difficulty, however, is, that with a near source of light, the angle at which it falls is very different at different parts of the picture, so that, if we get a sufficient angle at the side nearest the light, the illumination will fall very obliquely indeed upon the opposite side. All this points to the desirability of having the source of light as far removed from the picture as is reasonably practicable. The two considerations which will permit of a nearer approach of the light are, first, a small size of picture to be copied, and, secondly, though not so great an extent, a greater distance of the lens from the subject. This end is secured by using a lens of long focus compared with the size of plate, and this is also desirable for another reason—*i.e.*, that the image will be in a flatter field, and so much stopping down will not be necessary. The main objection to a distant source of artificial light is the length of exposure that would, with some illuminants and in some subjects, be necessary, and hence, no doubt, compromise will frequently be tolerated.

The necessity for placing the light near the picture and the difficulty arising therefrom only come into play (except for limitation of space where no large room is available) when the photographic activity of the light is low. Where the electric arc is obtainable, the difficulty ceases, and on various accounts with such a light available I should prefer to instal a copying establishment with that, rather than with daylight, especially in London, where we are so much dependent upon weather and season. Magnesium light is also good if a chimney can be fitted to carry off the fumes. With any artificial light (except the magnesium flash) it is easy to interpose a glass to intercept the rays that should be cut off by the yellow screen in orthochromatic work, a plan which obviates any optical interference with the working of the lens, and does not necessitate specially optically ground glass of the colour required.

A source of light everywhere obtainable, and one which will suit most amateurs, and be quite sufficient for copies from small paintings, especially water colours and such oil paintings as have not much yellowed by time, is that given by paraffin or gaslight. Light of this character may be used without a coloured screen, and gives about the same result as the use of a moderate yellow screen in the lens with daylight illumination.

I have here a few photographs illustrating the copying of paintings by a paraffin illumination as compared with daylight. The light used was the lamp from an ordinary three-wick lantern of the sciopticon kind. The condenser was removed on account of the image of the flame which it gives. The distance from the flame to the picture was about forty inches. The lamp was first

placed nearly in the line of the camera, and gradually removed to one side, until the reflection first visible on the side nearest the lamp had disappeared. The photographs A to G, representing a female head and a quantity of flowers, are copied from a print in colours, fairly representing a water-colour drawing in photographic power, whilst those marked M and onwards are from an oil painting about twenty years old, and pretty well mellowed in tone.

The plates used were of an ordinary commercial make, and for the orthochromatic series Ilford isochromatics of the instantaneous brand. The lens used was one of Suter's extra rapid aplanatics, full aperture, equal to No. 2 on the universal system for exposures.

The exposures given were, for the female head and flower subject, three seconds by daylight for both kinds of plates, sixty seconds for ordinary plate and yellow screen, and twelve seconds for the orthochromatic plate and yellow screen. For paraffin illumination the exposures were: ordinary plate, four minutes; ditto, with yellow screen, one hour; for the orthochromatic plates, thirty seconds sufficed without the screen, and four minutes with it.

For more ready comparison of the results, I have put them into a tabular form :—

	Exposures.	
Daylight—	Representation of water-colour drawing.	Oil painting somewhat mellowed.
Ortho. plate..	3 seconds	20 seconds.
Ordinary plate	3 "	20 "
Ortho. plate with yellow screen.....	12 "	80 "
Ordinary " "	1 minute	6 minutes.
Lamplight—		
Ortho. plate..	30 seconds	30 "
Ordinary plate	4 minutes	4 hours.
Ortho. plate with yellow screen.....	2 "	30 minutes.
Ordinary " "	1 hour.	

The same screen was used for day and lamp light, but in the latter case it was placed in front of the lamp; and, with daylight in front of the lens. The use of colour-sensitive plates is very strongly indicated for lamplight exposure on account of their much greater rapidity in that case, as well as for truer rendering of the blues and yellows.

An advantage of lamplight (even with an ordinary plate) over daylight, unless a deeply tinted screen is used, is seen in the clearness and brightness of the copies of the oil painting. In the daylight reproductions (without screen) the whole surface seems to be covered by a mistiness which is almost absent in the lamplight copies. The explanation is that the colours of the painting have been so yellowed by time that their photographic effect is very much less than their effect on the eye. The reflections from the surface of the picture are not affected by this yellowness, and, being disproportionately strong, disguise in the photograph the work of the painter. It is on this account that it has been justly observed that the orthochromatic methods (by which expression coloured light and coloured screens are included as well as specially sensitised plates), the cracks and surface disfigurements of old pictures, so very evident in reproductions by other means, are now no longer so obtrusive.

The figures given in the table must be taken as representing the exposures actually given, which were only approximately correct. The ordinary plates exposed to lamplight would, in several cases, have been the better for even a more lengthy exposure than was given.

When a "lantern" lamp is not at hand, ordinary paraffin lamps may be used. Two of the larger kind of tin-back lamps, placed one a little higher

and behind the other, may be used on one side (generally the left), and one on the other side. With a smooth-surfaced water-colour or fresh painting very fair results may be obtained in this way.

I have not thought it desirable to go into the question of many sources of illumination. The general principle is the same, but, with such lights as magnesium or the electric arc, yellow screens will have to be used as with daylight; but conveniently between the illuminant and the picture, instead of in the lens. Reflectors or weaker lights may also be used on one side, or below the picture, if without them the grain of irregularities show otherwise than the artist intended.

There are, I believe, many, especially amateurs, who have paintings of which they would like to have photographs, but who cannot spare daytime for the work. For such subjects as have been indicated I hope some will find pleasure and success in working with artifical light.

P.S.—One point I omitted to mention until reminded by a question. The lamplight copies of the oil painting, on plates of both kinds, came out of full intensity, and in fact, if anything, required reducing, whilst the daylight copies of the same subject without screen required a considerable amount of intensification.—*London and Provincial Photographic Association.*

. . . . . .

FROM Mr. J. T. Aitken of Galt, we have received a very well executed picture of a splendid specimen of the cat tribe—called by Mr. Aitken "Our Tib." Star plates and Ilford P. O. Paper were used by the artist in producing the pleasing picture now before us.

Rational Development.

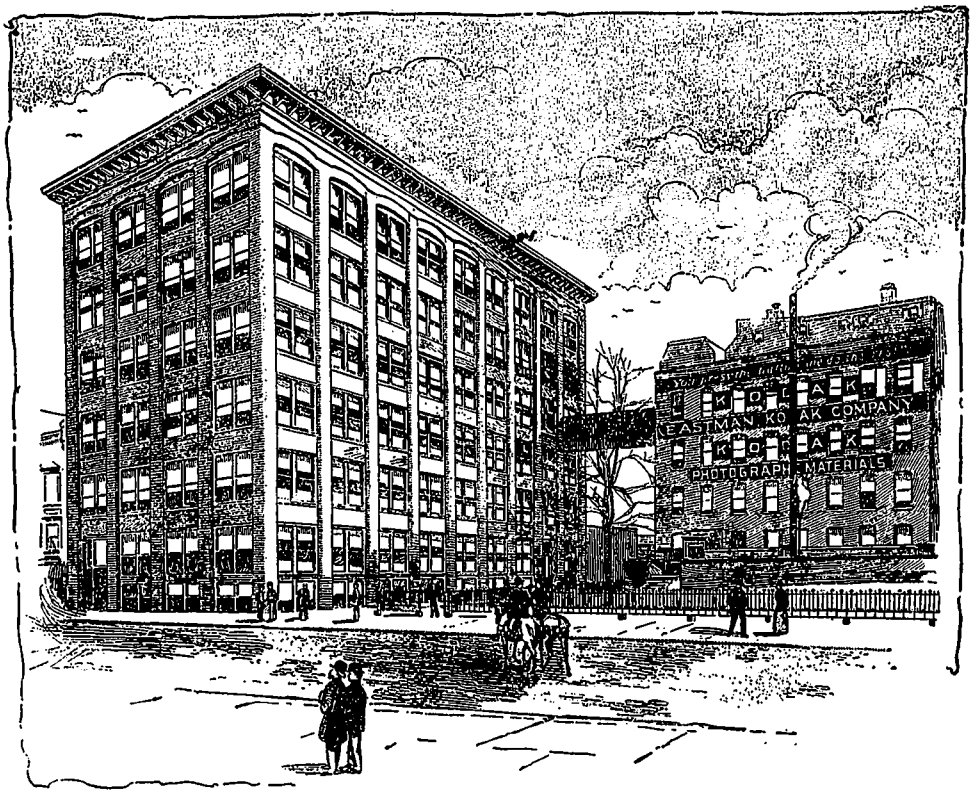
(Read before the Birmingham Photographic Society.)

OUR worthy and esteemed secretary, to whose kindness I am indebted for the invitation to read this paper before you, has, as I think, very judiciously limited me to half an hour. He does not suppose—you do not suppose—that I can tell you everything about development in thirty minutes, but I shall hope, by touching lightly upon certain essential points, to make clear to you my own idea of what may be considered a rational method of development.

And, first, I must say a word about exposure, for exposure and development are so intimately connected one with the other that it is almost impossible to leave out of your consideration the one while treating of the other. I am aware, gentlemen, that this question of exposure is the point of divergence between myself and those photographic friends who take the trouble to think anything about me or my work, and I am conscious of some self-sacrifice in coming here to-night—I will not say to be laughed at, but to be smiled upon for my eccentricities. But, in spite of all that, I have absolute faith in my method, and I shall not ask my friends to perjure themselves by saying the same thing about theirs. Please understand that I have not the slightest desire to underrate the methods employed by those who differ from me—methods that may be described generally as the endeavor to give each subject a correct exposure (so-called), and to obtain perfect negatives by the use of a so-called normal developer.

I have seen—indeed, I am constantly seeing—very excellent results obtained in this way—results, however, in no

(To be continued.)



THE EASTMAN COMPANY'S NEW BUILDING.

A Kodak Crystal Palace.

THE EASTMAN COMPANY'S NEW BUILDING.

ALL who take an interest in the growth of manufactories in this city must have observed with satisfaction the growth of the structure that has been rising since last summer at the south corner of State and Vought streets, Rochester, not only a new building but a novel one. Instead of building on the ordinary foundation walls, the architect put in massive cast iron pillars to bear the superstructure and on them proceeded to construct what is perhaps the best appointed building for manufacturing purposes in the city, if not in the state.

It is now so far advanced toward completion that the owners, the Eastman Kodak Company, proposes to move in next month and occupy it in the manufacture of kodaks. It was roofed in and glazed last fall and the workmen are now putting in shafting and other interior work necessary to complete it for the purpose to which it will be permanently devoted. The building has a frontage of 60 feet on State street and a depth of 128 feet on Vought street. It is six stories high exclusive of the basement, and there is an addition on Vought street, two stories high 42x60 feet in area. The total area of the flooring is 55,000 feet—about an acre and a quarter; the floor area of the building which the company occupies at present on Vought street is three-quarters of an acre, while the floor area of the buildings owned by the company at Kodak park is over two acres, making a total of four acres on which the company will grow kodaks when it gets into the new State street building. The walls are three feet wide at the base and sixteen inches at the top. They are of hard pressed brick. The amount of daylight that will enter the building is one of the remarkable features of the structure. There are nine

windows on each floor at the Vought street side and four windows to each floor facing State street and as many more facing west. Each window is in the neighborhood of ten feet square, so that the appearance of the building approaches near that of a crystal palace in which the proportion between glass and other material is as ten to one in favor of the transparent article. The interior is not less peculiar than the outer walls. The system on which it is built is the "mill-construction" or "slow-burning" principle. In each floor there are twenty-four pillars of solid timber a foot square each. The floors are all of hard wood and lie on rafters which are suspended by iron stirrups from beams that rest on brackets on top of the wooden pillars. The power will be supplied by a Corliss engine of 126 horse power, and the heating will be done by the Sturtevant system which is now in operation. The light in the basement is nearly as good as that in the floors above, and the floor is asphalt. The elevator runs in a brick well situated at the south wall.

Since the floors were finished the employees noticed that they were peculiarly favorable for dancing, the squares between the pillars being just the right size for a quadrille, while up and across there is a space along which the waltzers can whirl to their hearts' content and the gallopers glide in endless ecstacy. The temptation was too great to be withstood and they obtained the consent of the company to open the building with a hop. Feb. 13th, the dancers took possession of the building, the two lower floors having been decorated by Smith for the occasion. Tables were set on one floor where refreshments were served by Harned when the guests were tired paying their devotions to Terpsichore. Minges' military band furnished music and there were twenty-four dances on the programme. The committees managing the event were as follows :

Arrangements–F. E. Mosher, H. F. Sprague, C. V. Case, W. W. Whittlesey, Miss Hampton, Miss Whitney, Miss Daniels, Miss A. Little.

Reception—George Eastman, B. H. Clark, F. M. Crouch, T. A. McIntyre, F. T. Day, F. A. Brownell. F. S. Glaser, D. DeLancey, L. B. Jones, W. O. Butler, R. Elliott.

Floor—B. H. Meyering, H. J. Randall, S. V. Haus, M. T. Ehlman, B. R. Ordway, J. J. Hoffman.

Door—F. L. Raschen, A. W. Scofield, C.E. Johnson.