

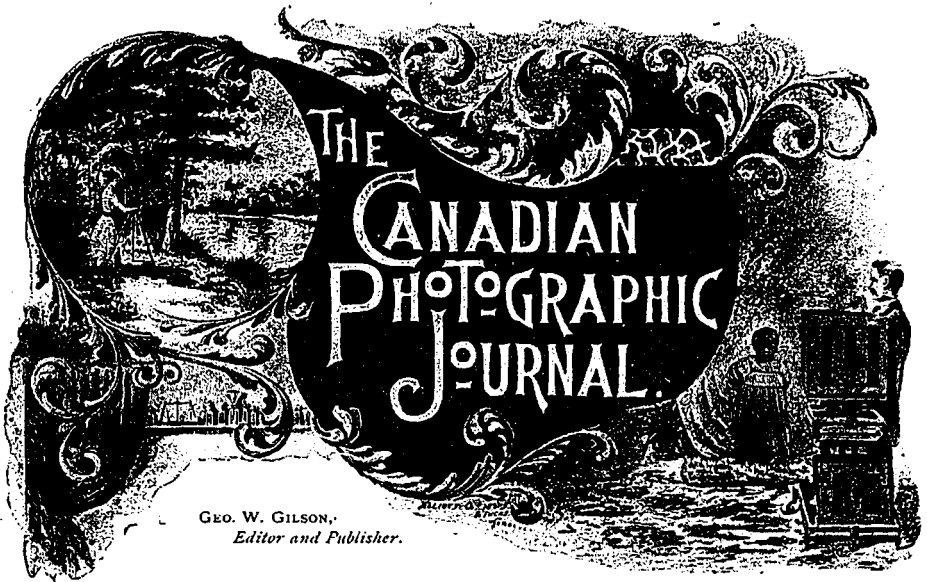


NEGATIVE BY

J. FRASER BRYCE, TORONTO

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OUR ILLUSTRATIONS.

The frontispiece of this issue is a good example of the effects that can be secured by the use of that popular printing paper "N.Y." Aristo. That "N.Y." is a quick and satisfactory printer, is shown by the fact that the large number of prints necessary to illustrate this Journal were printed on very short notice in the dull weather of the last few days.

We give this month some excellent samples of work done by the Boston Engraving Co. of Boston, Mass. This firm use the carbon process in all their half-tone work, and are kept so busy that it is said they never lock their doors, but work night and day most of the year.

EDITORIAL CHAT.

GERMAN stockdealers are now providing their customers with postal cards properly sensitized for photographic purposes.

WE regret to announce the death of Dr. Adolph Steinheil, of the firm of C. A. Steinheil & Son of Munich. His name is one that will ever be remembered in connection with astronomical and photographic lenses.

IN our report of the prize winners at the late convention of the P.A.C. we omitted to give the name of the person whose motto was "Will-get-there." We take pleasure in stating that Will-get-there was Mr. K. W. Snider, of Hamilton. We were unable at the time to find out who owned the motto.

A ONE-MAN exhibition has been held at the Central Photographic Club, London, Eng. The exhibitor is Mr. Thomas Fall, whose photograms of dogs are noted. The collection is said to have been very fine. The public were admitted on application.

NEXT month we shall present our readers with an illustrated Oriental legend, by Mr. Shapoor N. Bhedwar of Bombay, entitled "The Voice of Silence." This contribution, the illustration of which is Mr. Bhedwar's most recent masterpiece, was intended for our Christmas number, but owing to considerable delay in the course of its long and eventful journey it has but just arrived at the Custom house. Mr. Bhedwar is well known as one of our most gifted professional workers and Photographer Royal to T.R.H. the Duke of Saxe-Coburg Gotha and Prince Christian.

At a recent meeting of the Society of Amateur Photographers of New York, Prof. Daniel W. Hering read a paper descriptive of the first sun picture of a human countenance. The picture was taken by Professor Draper early in 1840 and is a portrait of his daughter. Very interesting facts in connection with the production of this picture and its recent exhibition at Chicago were brought prominently before the members by the lecture, and, through the courtesy of Chancellor McCracken and Prof. D. W. Hering of the University of the City of New York, the photographic exhibit of the University at the World's Fair, consisting of the early cameras (1840) and apparatus of Prof. John W. Draper were exhibited. The lecturer was accorded a hearty vote of thanks.

ONE of our correspondents has sent us the following extract from *The Buffalo Express* :

The Canadian Photographic Journal for December is a handsome holiday number. The best thing in it is a paper by W. Braybrooke Bayley—from whom *The Express* received many very fine specimens of work, a number of which are marked for publication as soon as possible—on the value of club work. Mr. Bayley takes for his text an extract from *The Express*, but he doesn't name the paper whose words he approves. Was he or the Journal afraid of giving *The Express* a "free ad"? At any rate, we're not afraid to give the Journal one. It's full of helpfulness for the amateur, and when it gets honest or generous enough to name a contemporary, from which it quotes, it will be a credit to its publishers and a desideratum for the public.

The quotation at issue was made by the author of the paper—not by THE JOURNAL—and we did not know its origin. We are not on the exchange list of *The Express*, and consequently do not often see the paper unless our attention is specially called to it. When we quote from a contemporary we acknowledge the fact. We do not have to descend to the petty meanness of journalistic theft. Come now, *Express*, be manly and take it back.

OUR English contemporary *Photography* publishes an interesting account of the formation of the Brondesbury Camera Club and gives its readers particulars of some alleged experiments in development by the president, Dr. Burton Coxe.

The Editor of *Photography* in his "Snap Shot" column further says:

"Dr. Burton Coxe has been experimenting with hydroxyl-monohydride in development, and thinks very highly of it. A reference to this is found in the report of the meeting of the Brondesbury Camera Club."

Turning to the report we were amused to find, after the usual preamble, the following:

"Dr. Burton Coxe, who was received with applause, said he had lately been experimenting on the lines of Col. Waterhouse with the addition to the developer of various little-known substances, and if he had nothing revolutionary to tell them as to his results, he had

certainly some interesting experiences to relate. Perhaps the most promising effects had been produced by the addition of hydroxyl-monohydride in varying proportions. He found that a large addition had a decided slowing action, but in moderate quantities its action was very beneficial, especially in enabling the developers to flow freely, and he should now be very sorry to develop a plate without it. Perhaps the best way to employ it was to use it to make up the stock solution of pyrogallic acid with the addition of sulphite. It might be produced by treating anhydrous hydroxyl with nascent hydrogen, the reaction at a high temperature being very energetic, and the result being the pure compound. The commercial article was frequently contaminated with chlorine or carbonic acid in combination with some of the calcium salts, so he advised those who wished to use it to make it themselves. The yellow tint sometimes seen in the home-made article was due to organic matter in solution, but it had no deleterious effect. It should be used freshly prepared, as if kept it underwent decomposition with the liberation of ammonia. He passed round a number of negatives developed by it which were much admired."

We can quite understand Dr. Coxe (if Dr. Coxe in reality exists) being somewhat unwilling to attempt development without this substance, but it is heartless in the extreme to perpetrate such a joke upon the innocent editors of *Photography* and their readers. In our schoolboy days the professor of chemistry in charge of our class used to teach us that hydroxyl-monohydride was but another name for that already well-known ingredient of most developers—water.

Sorrow is not so hard to bear as the thought of sorrow coming. Airy ghosts that work no harm do terrify us more than men in steel with bloody purposes.—*T. B. Aldrich.*

It is an excellent rule to be observed in all disputes, that men should give soft words and hard arguments—that they should not so much strive to *vex* as to *convince* an enemy.

CONCERNING CERTIFICATES.

WANTED.—A first-class retoucher. *No duffers need apply.* Address, with references, specimens of work, and salary required. X

The above advertisement, clipped from the columns of a contemporary of recent date, tends to show very forcibly how necessary is the permanent establishment of a body of men duly qualified to act as a board of examiners, and issue certificates of proficiency to competent assistants presenting themselves for examination in the various branches of photography.

Among the masses of so-called "good all-round hands" and "general assistants," how many could gain even the lowest grade certificate?

And yet there are thousands of men—steady, conscientious workers, who have duly served an apprenticeship and have devoted several years to careful study of chemistry and art—who have to drag out an existence on some seven dollars a week.

Now, in what manner does this sort of thing affect the employer? A man presents himself, in answer to an advertisement; he is backed up, perhaps, by a letter from his late employer, which gives him a good character, as "honest, anxious to please, always willing to learn, does not swear nor smoke, and is a total abstainer," etc.

These are very estimable qualities, no doubt, but what about his being competent to fulfil the duties required of him?

It usually ends by his new master having to put up with him during the "week on trial," and then installing in his place some one perhaps far worse: while he does the work himself.

Of course, when a first-class photographer is fortunate enough to secure the faithful services of that rare treasure, a *thoroughly efficient assistant*, he

naturally enough is willing to pay him his honest due ; but in some cases employers are not far-sighted nor honorable enough for this. In some instances, let us hope not many, employers have been known to engage a really clever man at a low salary "for the winter months" with the promise of a substantial rise directly the season opens.

As the long-looked-for season draws on, this promise is not fulfilled, and then the unfortunate assistant has the option of putting up with his seven dollars a week or looking out for another situation, where one of the first questions will probably be : "How long were you in your last situation?" followed by the information that "the services of a man who cannot retain his situation more than three months are not required." In this case, it will be observed, the duly qualified assistant has only an equal chance with the incompetent of one year's amateur experience. The advertisement quoted is by no means an isolated case ; every week, in one or other of the journals, advertisements of a similar nature are to be seen, the majority of applicants, perhaps, keeping secret the fact of their very limited experience.

How often we see the advertisement of a man who, among his numerous qualifications, can "retouch a little, work up enlargements in oils or black and white, print, tone, take a negative, etc., etc., wages \$7.00 a week."

How is it possible to tell the true from the false ?

Often do we see employers' advertisements bearing this rider : "No amateurs need apply"! How much better for both capital and labor, if a certain grade of certificates, in any branch, signified talents of a certain value, suited to a certain class of business! It would then only be necessary for

advertisers to add : "Must hold 1st grade retoucher's certificate," or "holder of 2nd grade printer's certificate," to enable employes and employers alike to know at once what class of work was indicated, and the amount of the salary attached thereto could be very closely approximated.

GELATINE-BROMIDE PAPER.

W. ETHELBERG HENRY



W. ETHELBERG HENRY.

Numerous enquiries have reached me of late in reference to the preparation of bromide paper suitable for development.

There seems to be a popular idea that the manufacture of an emulsion requires the accurate skill of an accomplished chemist.

To fulfil the necessary conditions of a large factory, such as Eastman's, where enormous quantities of emulsion have to be turned out each day and every batch has to be of exactly similar speed, such skill is of paramount importance ; but any photographer, who knows enough to carefully follow instructions, can easily make small batches for home consumption without possessing extraordinary skill or special utensils.

The principal thing to bear in mind is that light of an actinic nature must be most rigorously excluded from the emulsion during the whole time of its preparation. It is also well to follow directions faithfully—not try a little alteration of one's own and then pronounce the formula useless.

For instance, if hard gelatine is recommended in conjunction with bromide

of ammonium, it is hardly fair to use soft gelatine or bromide of potassium and then be surprised because the result is not good. Why, in many formulæ known to photographers, the simple order in which certain ingredients are mixed is a very essential feature, as many careless workers have learnt to their cost. About the simplest vessels with which it is possible to make small batches of emulsion are two stoneware bottles, fitted with good sound corks, a stoneware jar fitted with a light tight cover,—a piece of coarse canvas (such as is used for "double leviathan" wool work) about fifteen inches square, and some sort of a drying box. A couple of porcelain trays and a supply of suitable paper will complete the equipment, though of course a good darkroom is an absolute necessity.

The following formula, which is simple in the extreme, gives good results and contains only chemicals likely to be found in any photographer's darkroom.

No. 1	Silver nitrate	100 grains
	Citric acid	100 grains
	Water	3 ounces
No. 2	Sodium chloride	17 grains
	Potassium bromide	40 grains
	Citric acid	100 grains
	Nelson's No. 1 gelatine	40 grains
	Water	3 ounces
No. 3	Nelson's emulsion gelatine	200 grains
	Swelled in sufficient water.	

Put No. 1 into a stoneware bottle and No. 2 into another. These must now be corked, gently heated in a water bath and occasionally shaken to facilitate solution; this is best done in the darkroom, so that the corks can be withdrawn occasionally, and the temperature should not be allowed to rise above 40° C.

When thoroughly dissolved, pour No. 2 in a thin stream, a little at a time into No. 1, shaking well after each addition.

Now place No. 3, previously swelled in water, into the stoneware jar and pour the emulsion over it, stirring meanwhile with a strip of glass to assist solution. When thoroughly dissolved, cover the vessel so as to exclude all light and let the emulsion set for at least twelve hours in a place free from frost.

The operation of washing must next be thoroughly performed—of course in the darkroom. To do this, turn the lump of emulsion on to the center of the square of canvas, gather the edges together and squeeze the jelly through it into a basin of cold water, gently stir the shreds of emulsion for a few minutes with a strip of glass and then cover the basin with the canvas, pour off the water and fill up with fresh. This may be done half a dozen times, allowing the emulsion to wash each time for about six minutes. Finally drain the water away as closely as possible, return the emulsion to the jar (previously well washed) re-melt and add half an ounce of alcohol in a thin stream with constant stirring, strain through two thicknesses of cambric and it is ready for use.

There are many ways of coating paper with emulsion, but the best way for novices is to cut the paper in sheets of the size desired (say 10x12) and dampen them with warm water. Have ready also a few sheets of glass in a tray of warm water.

Place a sheet of damp paper on one of the warm sheets of glass, press it into place and remove surplus moisture by means of a strip of cardboard used as a squeegee; next balance the plate on the fingers of the left hand and pour a pool of warm emulsion on the center of the paper, flowing it rapidly to each corner, and drain the surplus into an-

other vessel, whence it may be strained again when required for use.

The paper when coated may either be left to dry upon its glass support, or, after the emulsion has set, stripped and hung up in a drying box. For some reasons the former method is preferable.

FOR BETTER PRICES.

T. W. PATTISON.



T. W. PATTISON, NEW YORK.

Four years ago it was impossible to find half a dozen photographers who would back the opinion that albumen paper would some day take a back seat in the class of printing out papers. Not a man could be found that would not sneer at the idea of albumen ever being superseded by any ready sensitized paper.

At the Buffalo convention of the Photographers' Association of America, in the summer of 1891, the American Aristotype Company made a very creditable display of prints on the paper of their manufacture. These prints were, of course, acknowledged very fine; they were made by leading photographers in the west and were unquestionably elegant specimens of photography. The exhibit attracted marked attention, but it was remarkable to note the opinions of the visiting photographers, the remarks they made "on the side." Very few indeed were there that prophesied a successful future for Aristo. Of course they were bound to admit that the productions exhibited on the paper were finer in detail and brilliancy

than could be produced on Albumen, but that was the farthest they would go, they thought it might possibly be used to advantage for the production of an "extra grade" of photographs, for which a higher price could be had than was at present charged for Albumen photographs.

To-day it is different, a large majority of galleries have adopted Aristo exclusively, have discarded Albumen paper entirely, and as a consequence are producing better work and getting better prices and are correspondingly happy.

Great credit is due the manufacturers of Aristo paper for the elevation of photograms to their present high standard of excellence; few concerns could be found with sufficient push and real nerve to stand the set backs and generally rocky roads necessary to traverse in order to reach the pinnacle of success at present occupied by the American Aristo Co.; few concerns could be found that would stand by and see their money go toward producing an article that cost five dollars to produce, to be sold to eager purchasers for two dollars, this, however, is what they did, and never flinched for a moment.

Success, however, has finally crowned their efforts and to-day the large majority of photographers use Aristo paper.

Aristo paper was first adopted by the progressive photographer as a specialty, he who was unable to get more than three dollars per dozen for Albumen cabinet portraits, put in an extra grade on Aristo at five dollars, the fine detail and brilliancy of the new pictures at once caught the favor of the public, who generally preferred to pay a couple of dollars extra and get "the best"—it was but a short time until the enterprising photographer found his demand

for Albumen pictures practically gone, and the only pictures sold were on Aristo.

Now comes the Aristo Company with another advance in artistic pictures—their Matt Surface. The same photographers who were aided by the introduction of Aristo paper to jump their prices from three to five dollars may now take another step upward by adopting the Matt Surface Aristo; any photographer who now gets five dollars per dozen for ordinary Aristo cabinets can readily get seven dollars for a dozen of the same matt surfaced, there is no reason for not making them, an order can be changed to matt surface after the original order has been printed, mounted and burnished, and at an expense simply a bagatelle.

Extra prices can always be had also for pictures with shadow effects, by using a white background; then, with Strauss Marl, which can be had of any dealer, work in a shadow on the back of the negative according to the directions which accompany the Marl, it is very simple to handle, and there is no reason why any photographer can not produce any number of beautiful, artistic and attractive styles with its aid; odd and stately designs in backgrounds and accessories can be readily produced. The background in the "Largest Photo in the World," exhibited by Strauss of St. Louis, at the World's Fair, was produced with the Marl, this picture which was on a single sheet of American Aristo, twenty-five inches wide and *sixteen feet* long, was admired by all who saw it.

In mounting "high grade" photograms it is important to use a neat and attractive card mount, out of the ordinary line: for instance, the new Lace Edge card, introduced lately by E. & H. T. Anthony & Co. of New

York, can be utilized nicely; take a cabinet size Aristo matt surface print, trim the edges and double mount it nicely on the new Lace Edge card and you have a superb cabinet photogram that will sell readily for seven dollars per dozen, when it is hard to get five dollars for regular work.

If you use American Aristo paper, advertise that your photograms are absolutely fadeless and waterproof. Waterproof photograms are being advertised quite extensively now in some portions of the country, and it is found that the public are pleased to be able to get them, and are willing to pay extra price for them.

METHODICAL WORKING.

W. BULL.

MAY be there are some readers of this journal, who, through some cause or other, fail in technical excellence, in getting bright clear negatives and necessarily bright clear prints. I can show many such amongst my own photograms taken when a beginner, but after the expenditure of many times the number of plates necessary to have arrived at a higher standard. Some eight years of work in England and abroad have taught me that want of method was my prevailing sin, and I am convinced that is the primary source of failure in ninety-nine cases out of every hundred amateurs. To illustrate: Not long ago I was looking through a collection of photos. taken by a friend; there was scarcely a decent production amongst the whole lot. Most had been over exposed or under, or injudiciously developed and the prints irregularly toned, but wrong exposure, development and toning, were not the real causes of failure. The camera used was a good one, the

lens a Dallmeyer R.R. The whole set bore unmistakably the stamp of want of method, and irregular working. Shortly afterwards my friend asked me to come in and help develop a batch of plates he had recently exposed. I agreed, and told him to have everything ready, and some fresh developer made up, giving him Thomas' formula for pyro-potash. On arrival at the dark room he handed me the developer. Good heavens! My hands nearly froze to the bottle, it was as near freezing point as it could be. We warmed the bottle's contents up to a reasonable temperature of about 65°.

"How much of each shall I add?" he asked.

"Well, what is the subject?"

"Let's see, I *think* it is a *view*."

"What exposure and stop?"

"Don't remember."

"What sort of light?"

"Oh, *about usual*."

"What time of day?"

"Didn't notice exactly."

"Haven't you *any* notes?"

"No, I never bother about them."

What could one do under such awful conditions of working. Of course every plate had to be treated as over-exposed and tentative development resorted to. Perhaps a more skilful and patient worker could have got better results, but my most strenuous efforts resulted in some ghostly negatives, unworthy of the name. I learned afterwards the plates had been exposed in a dismal light, and congratulated myself on the results I obtained. Now this may be an unusually bad case, but it is not a solitary one, and I know many such if not quite so bad, and I quote it to illustrate my point. Perfection of modern apparatus and the simplicity of most photo. processes puts success into the hands of every

worker who works with method. Of course, I mean ordinary success sufficient to stimulate and carry on the enthusiasm of the amateur. Of the requirements necessary to attain to the highest degree of technical excellence I am not justified in discussing. The importance of methodical note taking cannot be overlooked, or too often brought to the notice of the erring amateur. Let me point out a few of its advantages. It gives one such absolute control over the results of development, that great variations from correct exposure can be compensated for as well as excessive or want of contrast in the subject. It enables one to arrive at the speed of any one particular brand of plates (and beginners should always stick to one brand) when working under fixed conditions, and hence in time an approximately *correct* exposure and correct development under varying conditions. Both these lead to uniformity and hence to success, for though results at first may be uniformly bad, the different factors leading to these results being known, they can be modified and eliminated till the source of failure is discovered. As regards actual note taking in the field, it is simple enough. A small ruled pocket book with pencil attached is requisite, and preferably should be long and narrow. Different workers have slightly different methods. I give mine (but it is no different in essentials from other people's) by a fac-simile page from my note book:

56	NO. 6 IN SLIDE.	3-7-'93
NATURAL STEPS, MONTMORENCY RIVER.		
12:30 p.m. ¼ sec. f/22 R.R. lens bright sun		
Very bright reflections from water. Very heavy shadows in the rocks. Angle of sun 50° to the left. Cramer Iso. Med.		

In the left corner is the No. of plate, or rather, exposure, in the right the

date. The rest of the details follow with a small separating line.

When on tour I always take with me a few strips of the gummed edges of postage stamp sheets, which tear into neat little squares. At night, when changing plates before putting them into their boxes, I stick on each plate exposed a square, attaching it by one corner only, with its pocket book number. This can be torn off in the dark room and inspected before developing the plate, whereby one can mix ones developer in accordance with the requirements of the subject and the details of the exposure, and get harmonious results. If a page is kept for each exposure, there is still left room for notes on development, subsequent printing and toning results, and observations and deductions therefrom, as a future guide. This seems perhaps somewhat tedious and complicated to one unaccustomed to note taking, but I feel sure from my own, and others experiences, since adopting systematic note taking, that it is the only thing that will put a stop to that indiscriminate haphazard exposing and developing of plates, which wastes time, money and patience, and knocks off many a promising worker through the uncertainty of his or her results, and I am equally sure that in this opinion all good and experienced workers will back me up.

Two fellow-travellers were exchanging reminiscences.

"What was the proudest day of your life?" asked one.

"The day I was married. When I stood up to claim my bride I felt as if all the world were beneath me."

"A very natural feeling."

"Particularly in my case. We were married in a baloon."

HOW "CUPID'S SERENADE" WAS CREATED.

The following interesting letter from Messrs. Pifer & Becker, Cleveland, O., describes the way they secured the lovely picture "Cupid's Serenade," which was reproduced in our Christmas number. The picture as reproduced, has been universally admired. The letter, given below, was received just too late for insertion in the Christmas number :

GENTLEMEN.—Replying to your favor of the 13th inst. would say, for the benefit of the readers of the CANADIAN PHOTOGRAPHIC JOURNAL, that the photograph referred to is entitled, "Cupid's Serenade."

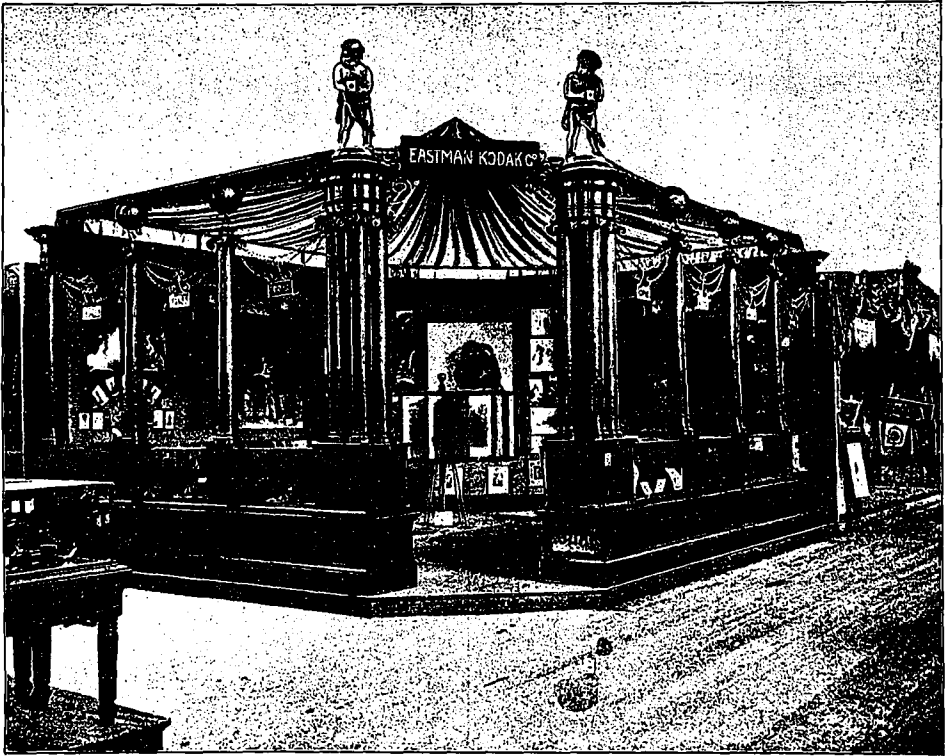
We secured this beautiful model, a little girl about five years of age, by advertising (last winter) \$25.00 in gold to the prettiest child photographed in our gallery during the month of January. Agnes Donovan, the model in this picture, was the prize winner—as a beauty and a poser we venture to say she has no equal—hence, after you have the *conception* (which is about all there is to it) and such a model, there is nothing else to do but to press the button. The most tedious and never-to-be-forgotten feature experienced in producing this picture, was glueing on the feathers piece by piece. Let the reader imagine himself with sticky fingers in a bag of feathers, and he may be able to form some idea of the pains we took.

Yours truly,

PIFER & BECKER.

Cleveland, O., Dec. 16th, 1893.

For every evil under the sun
There's a remedy or there's none ;
If there is one, try to find it,
If there is not, never mind it.



EASTMAN KODAK CO.'S EXHIBIT AT THE WORLD'S FAIR.

All our readers who were at the World's Fair will readily recognize the above reproduction of the Eastman Kodak Co's exhibit. It was one of the most attractive at the great fair.

THE ANCIENTS AS OPTICIANS.

Alluding to the oft-repeated statement that the Egyptians two thousand years ago knew what the penny-in-the-slot system was, and that Heron, the philosopher of Alexandria, describes an automatic machine which he asserts to have been in use in the Egyptian temples even before his time, and from which, by throwing a piece of money in the slot, the worshippers received someconsecrated water through a valve, a correspondent to an English paper communicates the following :

“I believe that photography was known to the ancient Egyptians, and that the visions of the dead called upon by the wizards of that highly intellectual race were produced by these means. With the aid of an instrument which we moderns call a magic lantern, great effects could be produced—a knowledge of the action of the ‘lens’ would probably be known to a race whose study of the star that gives light and life to our planet was so constant and so accurate. We have never achieved, notwithstanding the prodigious march of science, the power of constructing a figure from which the rays of the rising sun can produce a sound. This we know that the Egyptians did. Surely, it is not possible to conceive that they must have noticed the intensely powerful action of the sun’s light upon various substances ?

“That the knowledge of magnifying with the lens was known to very remote nations we have proofs. On the extended stones with figures cut in relief now in the museum in Paris on the Trocadero heights, I noticed a long row of figures, each holding in his hand a homunculus (little man), an object not perceptible, except through a very powerful magnifying-glass. This an-

cient race must have possessed the means of magnifying such extremely minute objects, and I quite believe that by a combination of photography and powerful magnifiers, portraits could be projected on to dense smoke, as has been done in modern days. Samuel, for instance, in the conspicuous position which he held as Judge of Israel, may have been represented in this manner to Saul, although the Scripture does not say that his phantom appeared to Saul, but that the witch of Endor said that it appeared to her.”

AERIAL PHOTOGRAPHY.

A scientist who recently made several photograms from a balloon has made the following remarks on the possibilities of balloon photography :—

“At the height of a mile, I was amazed at the clearness of the atmosphere, and the sharp definition of the landscape immediately beneath. I took with me a large camera, and had no trouble in operating it. About twenty good negatives were the result of the trip. Enlargements from these plates bring out detail to a remarkable extent, and would have great value to engineers, who could study the general character of the country through which it is proposed to run a new railway line or straighten an existing one.

“New, cheap, and quick methods of making hydrogen and storing it under enormous pressure in steel cylinders, makes it possible to transport balloon and gas to the desired location without much trouble or expense ; and from the car of a balloon, held captive at a height of about 1,000 feet, the photographer would be able to take pictures of the landscape, upon which could be outlined the proposed road or changes of existing route.

“In railway accidents, photograms of this kind might be employed to show the jury the exact state of affairs regarding branch lines or switches, in connection with the wrecked trains.”

THE USE OF SINGLE OR COMPOUND LENSES, OR PARTS THEREOF.

BY "TECHNIQUE."

In my last article I have made more than a passing allusion to the so-called "limitations" of photography, first and foremost of which stands that brought about by the employment of the optical instrument called by us photographers the "lens." The use of a pinhole pricked in a piece of thin metal is probably as old as, or even older than, photography; but for many reasons, which need not be discussed here, this method of taking a photograph without any lens seems to be generally impracticable. Therefore, we are driven to employ an optical instrument, and upon its perfection depends largely the success of our work. Every person who has used a photographic apparatus knows very well that if he sets up his camera and focusses his view or other object, the particular lens he is then employing will produce an image on the ground glass of a certain size at a given distance. If he wishes to get that image larger he must remove the camera nearer to the object, and if he desires to reduce the size of the image he must go further away from the object. Under some circumstances either movement would be proper and permissible, but there are very many cases when such would be either improper or impossible—impossible because there is only one place where the camera can be planted, to move from which might completely spoil the result. A case in point will illustrate this: From off the King's Bridge at Canterbury there is a very picturesque view of the River Stour, with quaint houses on either side, making a fine composition. There are iron railings fixed into the parapet of the bridge, and to take this view you must

push the camera close up so that the lens will protrude between two of the rails. Now unless your lens is of the proper focal length, the amount of subject embraced—the angle of view—will be wrong, and the result inartistic. Another instance may be cited of where it is impossible to vary the standpoint of the camera. A friend took me to a rare old subject of a flight of stone steps, doorway, and rich carvings, all in one corner of a quadrangle. The shortest lens I had was 8in. focus. With this, and placing the camera in the opposite furthest corner of the court, I was unable to get the subject on to my plate without cutting off either the steps or the carved eaves. Now it was impossible to get another inch further away, so that the only alternative was a lens of 6in. focus, which I did not then possess.

And so on, one might instance scores of cases where it is compulsory to use different lenses according to the nature of the requirements—sometimes shorter focus than for ordinary work, and sometimes longer; and I may be pardoned if I give two more examples, and then I will dive into the subject which heads these remarks. Anyone who has studied the exterior of Winchester Cathedral from a photographer's standpoint must have seen the difficulty of getting a really good view. There is but one good position, and that is from the High Street corner of the green. The trees somewhat interfere, by driving one away from the very best point of sight, but in any case a rather short focus lens must be used, and this has the effect of exaggerating the perspective. The nave is the longest of any English cathedral, but a short focus lens makes the entire building look of an enormous length—longer than it really is. My next example would be

the attempt to photograph a house from across a river a quarter of a mile wide. If, ordinarily, one employed a lens of, say, 8in. focus, for this one would need one of, perhaps, 16in. focus.

These are some of the limitations of photography, the angle of view included on a given size of plate depending on the focal length of the lens employed. There are some photographers who use only one lens; with this all their work is done. As a rule, a collection of photographs by a "one lens man" will generally include several in which errors, such as those mentioned in the foregoing, will be found.

From the remarks just made it will probably be gathered that the utility of a good assortment of lenses is beyond question. If money is not a controlling factor, I would advocate an investment in a good set of lenses, which for all kinds of work should ascend inch by inch in focal length, from the shortest ever likely to be used up to the longest. In purchasing lenses of different makes and construction, or focal length, it frequently becomes a trouble in consequence of the diversity of sizes of flanges and threads, and not always are adapters able to help over the difficulty, for I have myself certain lenses which will not screw into any regulation flange or adapter, and there is nothing for it but to carry an additional front with the flange on it. On cameras with conical bellows this is not much extra bulk or weight beyond that of an adapter, but in large square-fronted cameras an additional front is a weighty consideration. So that if any number of lenses are to be bought it would be well to have in view their interchanging capacity. The series of symmetricals approach nearer to an ideal set of lenses than any other, if we

except the "Casket" form of lens, such as has been used by Darlot, Wray, and others. The symmetricals of the best makers, and the similar types copied therefrom, as well as most of the rectilinears, are interchangeable so far as the flanges are concerned, but many of them—notably the symmetricals—have a further advantageous property in that they permit of marrying, say, the front glass of a long focus lens with the back glass of a short focus lens, thus yielding a combination differing in focal length from that of either of the lenses from which one glass has been taken. For example, if we have an eight-inch and a four-inch symmetrical, if we unscrew the back glass of the eight-inch and supply its place by the back glass of the four-inch, we get a combination of six inches focus or thereabouts. Similarly, if the mount will take the different glasses, we may go on changing and obtaining a variety of focal lengths from a few lenses. Foreign made lenses are frequently screwed to such sizes and threads as will not permit of these interchanges of their components. Until an universal system of threads and sizes shall be agreed upon, opticians will go on making confusion of threads, as in the old days before the demand for uniformity arose. The property of interchangeability I have just mentioned is one giving an additional power to the photographer to meet the limitation of focus already alluded to. Theoretically, in many cases it would be improper to marry the half of one lens to that of another, because it would no longer be a symmetrical compound; but in practice I have not found this to be the least detriment. The "Casket" form will give several combinations not truly symmetrical, but the results are indistinguishable from those produced by

the best of symmetrical combinations. A "Casket" set can be had which will give single or double combinations from three inches to twelve inches in focus. Only one mount is required, into which the various glasses in cells are screwed, and we thus obtain a battery of lenses with a minimum of bulk and weight, and probably at half the cost of several lenses of equal capabilities.

Of course, every tyro knows that he may use the front lens of a double combination for landscapes, or such subjects as do not include the straight lines of architecture. For landscape work, probably no lens surpasses the single lens, and single lenses are much less costly than double ones, but they can rarely be worked with apertures large enough for use in quick exposures, for whilst double lenses can be had which will work with $f/5$ —and $f/8$ or $f/7$ are the common working apertures—very few single lenses will work at a larger aperture than $f/12$ or $f/16$, if good definition is sought over all the plate the lens is supposed to cover. There is a fashion in lenses, and double lenses of the symmetrical or rectilinear type are those mostly in vogue. For rapid exposures double lenses are imperative. I have seen a hand-camera lens working at $f/5$; the definition and depth of focus are remarkable, and such as I never yet saw with a single lens.

At the risk of repetition I may urge my readers to consider carefully when they buy a lens what are the capabilities of interchange. At one time I had quite a mania for buying lenses, and bought anything that seemed tempting. The result of this was that I had about me a considerable value of oddments, an infinite variety of foci, flanges, and threads, as well as sorts of construction

which really amounted to duplicates or triplicates serving no useful individual purpose. As Wemmick termed it, lenses may fairly be considered as "portable property," for if judiciously bought they will always be worth their cost, approximately. But the judiciousness is just the one quality that one most frequently lacks. If one has £20 or £30 to spend in buying lenses, one ought to seriously weigh all the circumstances of their use, some of which I have mentioned. It is questionable whether I myself would not have done best had I invested systematically in recognized types, gradually amassing a battery of perfect lenses, or whether, indeed, it would not have been best of all to have acquired two or three "casket" sets that would do everything, with perhaps a special lens or two for exceptional purposes, such as portraiture or copying. My idea of a couple of "casket" sets would be from 3in. to 12in., and from 16in. to 24in. foci.

In the "casket" form of lens due allowance is made in the construction of each cell so that the longer foci glasses shall be kept further away from the diaphragm than the shorter foci ones need to be. This is in keeping with theory and practice; in order to produce the best effect. It might from this be concluded that if we removed the back glass of a symmetrical lens and supplied its place by the back glass of another symmetrical of shorter length—see remarks *ante*—that there would be confusion of focus. In practice this is not found to be so, at least not in the best work, such as Ross's symmetricals. The only difficulty is that sometimes the posterior glass of one will not screw into the mount of another, by reason of the thickness of the glass bringing the cell into contact with the diaphragm. Sometimes, also, the corners of the

picture get cut off by reason of the marginal pencils being interrupted in their path by the mount.

I cannot do better than conclude my remarks by reminding readers that whenever we disturb the arrangement of the components of a lens we also disarrange the relation of aperture of stops to that of focus. In all such cases calculation must be made of the new relation, and proper allowance therefore made in the exposure. Similarly, if we use, say, the front half of an 8in. compound lens, the relation is made still more exaggerated; for instance, if a lens of 8in. focus, working as a double lens at $f/8$, required *one* second, then if we use only the front glass it will be 16in. focus, and will require *four* times the exposure, *i.e.*, *four* seconds, not two seconds as might have been imagined, because only half the lens was used. — *Photographic Scraps.*

THE PRACTICAL TESTING OF PHOTOGRAPHIC OBJECTIVES.

DR. AD. MIETHE.

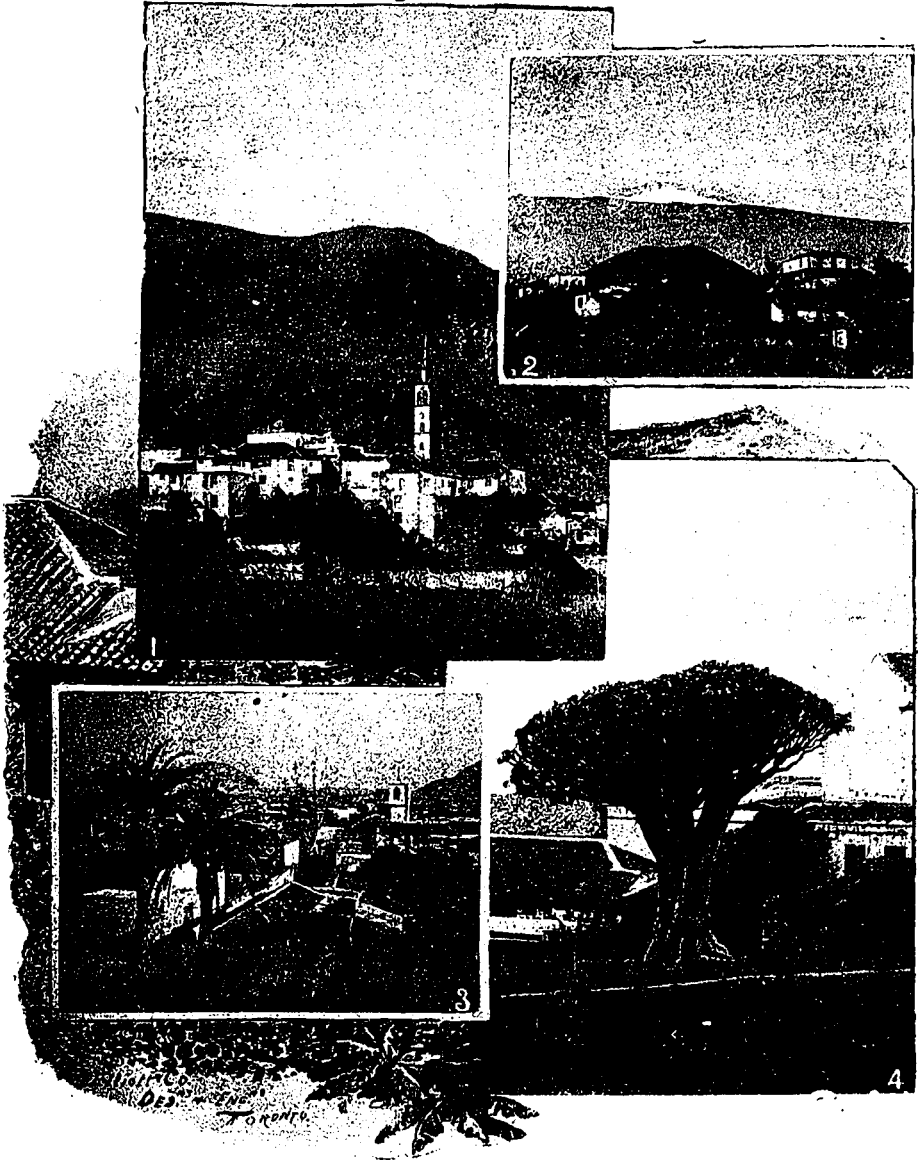
THOUGH it is of great interest to the optician to obtain an exact knowledge of all the properties and faults of any photographic system by numerical calculation, it is generally sufficient for the photographer, whether professional or amateur, to form a rougher idea of the capability of any photographic objective. The following is intended to aid the amateur to determine by comparison, without any particular apparatus, the capability of lenses, and it may be mentioned at once that this examination is just as exact (and much more comprehensible with regard to its results) as the measurements obtained by the use of the so-called testing apparatus.

For all examinations of photographic lenses the maxim must be laid down, that only lenses of exactly the same character may be compared together, and that, above all, their constants must be decided. We take it for granted that the amateur knows the simple methods employed for ascertaining the focal length and the working aperture, and thereby the intensity of the instrument. We therefore have only the following questions to decide:

1. Which instrument with a given aperture not too small for instantaneous photography, gives the largest area of sharpness?
2. Which instrument gives the most even illumination of a field within this area of sharp definition?
3. Which instrument gives negatives with the greatest absence of fog?
4. Which instrument gives with the largest stop the largest area of sharpness?

All other questions which may be proposed in comparing objectives are useless; for instance, it is often said that this or that instrument possesses a greater depth of definition than another. We know, however, that this depends solely on the strength of lighting, at least, in so far as concerns the centre of the field.

Our first question must therefore be settled, because upon the utilisation of the sharpness with the largest aperture depends the applicability of the instrument for instantaneous work. The test is very simple. Supposing two lenses are to be compared, one with the greatest illuminating power of $f/8$, the other of $f/7\cdot3$, we should commence our work by stopping down the lens of $f/7\cdot3$ to $f/8$, in order to equalize the conditions under which both lenses work. If a suitable stop were not supplied with the lens it could be



PHOTOS BY W. BULL, QUEBEC.

HALF-TONE BY ELLIOTT ILLUS. CO., TORONTO.

No. 1. REALEJO ALTO. TENERIFE. (Tower and Mountain).

No. 2. PEAK AT SUNRISE FROM OROTARO.

No. 3. GUIMAR, TENERIFE. (Two small trees in foreground).

No. 4. THE OLD DRAGON TREE AT ICOD, TENERIFE.

easily made of blackened cardboard or tin. We now screw the lens to the fixed apparatus, which must be reliable as to keeping the surface of the screen and of the sensitive plate vertical to the axis of the lens. We then focus a distant object perfectly sharp, for which purpose it is best to use an achromatic magnifying glass placed upon the centre of the focussing screen. The best object for this purpose is a so-called test-screen (a flat wall about ten feet square would do), which is completely covered with a net of lines, printed pages, geometrical designs, silhouettes, etc. The objective must not be too near this screen, the distance must be at least fifty times that of the focal length. Care must be taken that the apparatus is so placed that the axis of the lens is directed as perpendicular as possible to the surface of the test-screen. Should the focussing not result in an absolute sharpness at the middle of the field with the stop employed, it is necessary, by introducing other stops, to find out the largest aperture which will give perfect sharpness, and to insert a corresponding stop in the other objective. When in this way we have focussed the centre with the greatest possible accuracy we proceed with the exposure. For this purpose it is best to use a plate of very fine grain, such as a transparency plate, and to expose for as short a time as will suffice. This done we fix the other objective without changing the position of the camera, and take a second photograph with the same length of exposure and relative aperture. It is important that both exposures are of exactly equal duration and that the plates are developed together in the same way. From the plates so obtained various things can be ascertained by examin-

ing them on a retouching desk with a magnifying glass, starting from the centre, and marking those points where sharpness is just appreciably beginning to fall off. That objective which gives the larger part of the image in sharp definition is the more perfect one, because the object was photographed under the same angle in both cases. But a further examination of the plates gives us at once an answer to our second question, viz., which of the two objectives gives the more even illumination of the field. It is easy to notice, especially if the exposure was a comparatively short one, that the density of both negatives decreases from the centre to the edges of the plates. The more rapid this decrease is the less suitable is the lens for instantaneous work.

If we now repeat this comparison test of the two objectives with a very small stop, say of $f/40$, we can form an idea of the capability of the lenses for all such cases in which it becomes necessary to employ a small stop, whether to obtain depth of definition, to improve the definition at the edges of the field, or to prolong the exposure.

It will frequently be found that the proportionate advantage of one instrument over the other in the first trial proves to be the reverse in the second. So it may happen that an objective which with a full aperture shows poor definition at the edge of the plate and which for this reason would be declared to be inferior to the other, may, if worked with a small aperture, prove vastly superior to its rival. In estimating the values of the competitive lenses it is therefore necessary to consider for which special purpose they are intended to be used. For instantaneous photography the preference will always be given to the lens which,

with a full aperture, gives the largest area of good definition ; while that lens is the best for landscape photography which with a rather small stop gives sufficient sharpness over a wide angle, with a fairly even illumination of the picture.

An important test which is rarely resorted to, though it can be carried out with very little trouble, is the one referred to by question 3, viz., the examination as to the absence of fog, that is, the brilliancy of the picture produced by the lens.

There is formed in each lens by the repeated reflections from its polished surfaces, a certain amount of false light, which under certain circumstances may cause more or less fogging of the plate and a conspicuous flatness of the picture. The test as to this property of the lens is very simple. Fix on to the centre of the focussing screen a piece of tinfoil or black paper of about the size of a pea, focus the objective sharply upon the horizon, and then step out with the camera into the sunshine. The lens must then be directed towards the sun, so that its image falls exactly upon the tinfoil or paper spot. Now move the camera a little to and fro, and you will observe a number of luminous circles of various diameters, arranged in a straight line. which change their size and position according to the motion of the apparatus. These luminous circles are nothing else than conical pencils of rays of false light thrown by the lens upon the flat surface of the screen, and their size gives a clue as to the amount and harmfulness of the false light peculiar to the lens. If the size of the stop used for this purpose is taken as a unit, that objective must be declared superior in this matter of which the largest luminous circle is in proportion to this unit

of the greatest diameter. Besides this, that objective is generally the superior one of which the number of the visible luminous circles is the smallest and the increase of their diameters the quickest.

The ordinary photographic lenses of the aplanatic type generally show three or four, sometimes even six such luminous circles, if the operator covers his head with a focussing cloth in order to shut out as far as possible all extraneous light. Experience has shown that under unfavorable conditions the objective gives also a distinct spot of light, if the smallest of the luminous circles is of about six times the diameter of the stop. The objective of which the smallest luminous circle is about ten or fifteen times the diameter of the stop would be considered a very good one, and such lenses give very clear negatives.

The necessity for ascertaining by personal tests the values of the many types of objectives has lately become a very urgent one. The great variety of new types of objectives lately introduced by English and German opticians makes it very difficult for the photographer to determine which he will select. The modern anastigmats and the somewhat similar concentric lens of Schroeder have raised the standard of perfection which may be reasonably required of an ordinary photographic system, to a very considerable extent, and it would therefore be useless to compare such instruments with older ones, such as aplanatic and symmetrical lenses at all ; they are very much superior to them. But it is not so easy to decide the question as to which of all these new systems should be preferred. In Germany it is chiefly Zeiss and Goerz who claim to have produced the most perfect ob-

jective. Until lately the palm has been given to the Zeiss anastigmat $f/6.3$ as the undeniably best objective extant for instantaneous photographs; this position it has now, in our opinion, lost, as it is much surpassed by the new double anastigmat of Goerz, and in all cases where the illuminating power of this instrument is sufficient ($f/7.7$) it may deservedly be called the best of all existing objectives.

Quite recently, however, the firm of Zeiss have endeavored to produce an objective in the form of their new anastigmat $f/8$, to be equal in value to that of Goerz. It is perhaps not yet decided in how far the makers have succeeded. Certain it is that the new anastigmat of Zeiss $f/8$ is superior to the former Zeiss objectives, and only careful comparative tests will reveal whether it is equal or superior to Goerz's instrument. In any case, this much can be said, that photographic optics have in the last five years made advances which before that period perhaps nobody would ever have imagined. A further essential improvement is, one might say, scarcely necessary. All the new instruments allow with an aperture of $f/8$, which is sufficient for nearly all purposes of instantaneous photography, the reproduction of a sharply defined picture with its greatest dimensions at least equal to the focal length of the lens. The old aplanats, however, remain very much behind this; they cover, according to circumstances, a plate of hardly two-fifths of their focal length with absolute sharpness.

(A paper read before the Photographic Society of Great Britain.)

The junior fellowship of Dublin University will hereafter be open to men and women students on same terms.

OPTICAL GOODS AT THE EXPOSITION.

One of the most notable exhibits at the World's Fair was that of the Gundlach Optical Company, of Rochester, N. Y., a company which ranks among the leading manufacturers of optical instruments of the world. Three awards were made to this company for the excellence of their goods. The business had a very modest start about ten years ago, with the optical work of Mr. Ernest Gundlach as a basis. From Mr. Gundlach the firm took its name, and he is still connected with it as consulting optician, while the firm proper consists of Henry H. Turner, John Zellweger, and John C. Reich. Microscopic objectives were the first articles manufactured, but the firm was brought into especial prominence by the superb line of photographic lenses which they originated and placed on the market. These lenses are of peculiar construction, and are protected by letters patent. They are so constructed as to eliminate to a great degree the defects which are inherent in all photographic lenses. In addition to this, they are so constructed that either the front or back combination can be used as a separate objective, and a longer focus thus obtained than the combined objective gives. In this way lengths of focus can be secured varying as 2:3, and 4. A year or two ago the firm added the manufacture of portable telescopes and microscope stands to their business, and at once took a prominent place in both these lines. In the microscope department they received two awards, being the only firm in this country to receive any awards in this line. The microscopes embrace a wide range of instruments, and are all made on the most approved models and with the greatest attention

to detail and excellence of workmanship. The portable telescopes are also receiving deserved recognition, as they are of the highest optical excellence, and mechanically have many new features for portable instruments. They are made in size from $2\frac{1}{2}$ inches aperture up. Many are in use in various parts of this country, while the company is preparing to fill a European order.

One of the unique parts of the exhibit is the fine display of Mangin mirrors, such as are used in the great marine search light projectors. This firm is the only manufacturer of these mirrors in America. The mirrors vary in size from 30 to 75 centimeters, and one requires some knowledge of the *technique* of the glass business to fully appreciate the great difficulties encountered in their manufacture. The exhibit as a whole was a most complete and satisfactory one.—*Scientific American*.

THE HAMILTON CAMERA CLUB.

The principal illustrations of the very fine holiday number of the *Hamilton Spectator* are from views taken by members of the Hamilton Camera Club. The work of the members of this club is of a high average. That sent in to the competition given by the CANADIAN PHOTOGRAPHIC JOURNAL, compared very favorably with the best work received, and that best represented the work of the leading amateurs of the world. An interesting article accompanied the *Spectator* views which we give below :

There is no pastime more delightful to the man in whom are united a love of nature, a taste for art, and a keen enjoyment of active outdoor life, than the pursuit of amateur photography. Few who have mounted this hobby, and had the patience to master the first details of the photographic art, have abandoned it. One so quickly sees the results of his work, and can so readily mark the progress which he is

making ; there are so many opportunities for experiment, and so much variety and change, that the amateur photographer's enthusiasm is more likely to wax than wane the more he learns about the art.

About twenty months ago there were so many Hamiltonians who habitually manipulated the camera for fun and not for money, that it occurred to one of the most enthusiastic of the camera enthusiasts, William White, that it wouldn't be a bad idea to have them united into an association for mutual help. So Mr. White called a meeting of the amateurs for the purpose of organizing a camera club. It was held in his office on April 18, 1892, and was attended by about a dozen amateurs who had gained some experience in photography. Before the organization of the club was completed, however, the suggestion was made by Samuel Briggs that it should affiliate with the Hamilton Association, forming the "photographic section" of that august body. The suggestion met with general favor and was carried into effect. Samuel Briggs was chosen as chairman of the section ; A. T. Neill and J. R. Moodie as first and second vice-presidents, and Wm. White as secretary-treasurer. It was agreed that the executive committee should consist of the officers and W. J. Grant, who was elected as its chairman. This excellent staff of officers has continued unchanged until the present time.

The section has secured a "dark-room" in the Rainey building on Main street east, and this is supplied with all the necessary appliances and chemicals for developing and storing. Meetings are held monthly in the museum of the Hamilton Association.

Ever since the section was formed it has prospered, and it now occupies a prominent position among the photographic clubs of Canada. In conjunction with the Toronto Camera Club it has completed an arrangement for the interchange of lantern slides among the photographic associations of the country, which is certain to result in a great deal of interest and benefit.

Each member of the section is supposed to develop and print from his own plates, and the great majority of them do so. A very few get their plates developed for them by professional photographers ; they plead lack of time to do the work themselves. The average merit of the work done by the members is very high, considered as amateur work, and some of it is quite up to the professional standard. Several of the best views of a number of the members have been sent for competition to the CANADIAN PHOTOGRAPHIC JOURNAL, which is offering valuable prizes for the best amateur work. The result of this competition will be known in a few days.

Most of the Hamilton amateurs confine their work to landscape photography ; but there are two or three exceptions. W. J. Grant has made a specialty of water views, and has been very successful in that class of work, some of his pictures of yachts in motion being capital specimens of photographic art. John Eastwood, jr., has done some excellent work in

the photographing of figures, singly and in groups: President Briggs is quite expert in getting good views of animals.

Two or three public exhibitions have been given by the club, the views secured by the members having been mounted on lantern slides and thrown upon canvas by Vice-President Moodie's stereopticon. Mr. Moodie has acquired great expertness in the management of his fine instrument, and the work of his fellow-amateurs is seen to the best advantage when enlarged on canvas and illuminated by his limelight. Quite recently a large number of views of the World's Fair and several miscellaneous views, all taken by members of the Toronto Camera Club and mounted on slides, were shown by means of Mr. Moodie's apparatus in Association Hall, and were greatly admired.

Many exciting and funny adventures have been experienced by the club members in the course of their rambles abroad in search of subjects. They have not yet ceased to tease one of the most enthusiastic of their number who, in a secluded rural spot, near a running stream, endeavored to get a snap-shot at a young lady and her escort who were on the other side unconsciously posing for their pictures. Just as the knight of the camera was about to transfix the pretty scene on to his plate the bank of the rivulet gave way, and photographer and apparatus were precipitated into the cool, pellucid brook. During the remainder of his day's outing it was impracticable for him to make use of the dry-plate process.

Many a long tramp have the club men had over a rough country, many a hill has been climbed, and many a stream waded, to get a picturesque scene from the most favorable point of view to get a good picture.

The most prominent of the members of the Hamilton Association Club are: A. H. Baker, H. C. Beckett, J. W. Bowman, John N. Briggs, Samuel Briggs, J. G. Y. Burkholder, C. E. Cameron, A. Crisp, A. M. Cunningham, A. Devine, Robt. G. Dow, John Eastwood, jr., R. C. Fearman, Dr. Gaviller, W. J. Grant, J. G. Hore, J. A. Laidlaw, Geo. Lees, A. Mason, J. R. Moodie, R. A. Mathesius, E. Mills, A. Morgan, jr., A. T. Neill, E. F. Noyes, R. A. Robertson, E. Jackson Sanford, P. S. Scriven, R. Southam, R. Stark, H. Sweet, W. R. Turnbull, J. D. Turnbull, Alex. Turnbull, W. J. Turner, Wm. White.—*Hamilton Spectator*.

THE HUMORS OF A PHOTOGRAPHIC STUDIO.

A first-class provincial studio with from thirty to forty sitters a day is not without incident, although, from the photographer's point of view, many of the humors are anything but humorous at the time of occurrence.

The babies—ah, the babies! Crying

babies, laughing babies, talking babies, babies that won't shut their mouths, babies that won't open their eyes—all these are bad enough, goodness knows, but none of them can come up to the inquisitive baby,

The experienced eye knows it at first sight, as it is led into the studio, accompanied by the usual procession of nurse, mother, mother-in-law, and three or four aunts. It is very quiet, and looks curiously and eagerly around. It doesn't mind being fixed in position, beaming benignly in acknowledgment of the chirruping chorus of the assembled females. One of the ladies (usually an aunt) is stationed near the camera with a doll to attract the inquisitive one, who, gazing at the inanimate imitation, points and grunts vigorously. The operator, with his head beneath the dark-cloth, whistles his sweetest and mutters anathemas. The aunt gives up the doll, but the cherub soon drops it and points to something else. Its tastes are catholic, and range from the stuffed dog to the blue and white blinds that run along the glass roof. Whatever it fancies it must have, and failing satisfaction, it will clamor for freedom and then scramble away on a tour of inspection. If the day is fine, the darker our spirits, for while this disordered baby-chase is going on there are probably a dozen sitters waiting downstairs in the reception room, and sitters have a knack of coming to be photographed while they are waiting for trains.

The danger of a little knowledge was illustrated by a gentleman who, at the critical moment when the exposure was being made, remarked to the operator that the cap had not been put on the lens. He did not know of the shutter inside the camera that is worked from the outside by air-pressure. Result: Image on plate shows half a-dozen mouths, and gentleman has to sit again.

One day a lady entered the studio with a photogram and said she wanted to be taken like that. The picture was that of a young and favorite actress, reclining easily on a sofa, with the hands clasped behind the head. The lady had seen forty, and consisted chiefly of bone, but duty called, and she had her way.

An old Yorkshire man came in with half-a-dozen others, evidently the rest of the family. When he had been photographed, he descended to the reception-room and sat down among his relatives. In about fifteen minutes he came over to the desk and inquired if they would be long. Asked his meaning, he said he was waiting for his likenesses. He was told the proofs would not be ready for a week, and marched off slowly at the head of his sorrowing troop.

A group of a child, cat, and dog, caused trouble the other day. When the child was still the dog would move, and the child would turn round to see what the dog moved for. The cat kept still right enough, but it wouldn't keep awake. We tried everything, until at last, by a lucky thought, the doll and the stuffed dog were held up suddenly—one of us mewed, the group of three looked intently, and in a flash the deed was done.

Once an old gentleman who was stone deaf, came in alone. The worst of it was that he would talk. He didn't like the head-rest, and on being told that it was necessary to keep the head still, he said yes, it was a long time since he was taken before—in fact, it was in the old daguerrotype days. When he was told to look pleasant and keep still, he got up and said he was glad it was over, and had to be led back again. He did keep quiet at last by a miracle, and though the expression taken was not choice, there was plenty of it.—*Til Bits*.

DEATH OF MR. GEO. KNOWLTON.

It is with deep sorrow that we have to chronicle the death of Mr. Geo. Knowlton, a man without an enemy, and almost without a fault; a man whose high sense of honor, business integrity, and manly straight-forward dealings, combined with a nature naturally sunny and attractive, won him a warm spot in the hearts of all who knew him. Mr. Knowlton was born in New Portland, Me., and became connected with The Stanley Dry Plate Co. in 1884, beginning at the bottom, almost, and worked his way steadily upwards, until in January, 1887, he came to Montreal for his firm, and soon after took charge of the Canadian factory. His business career since then is too well known to need comment by us. To his earnest attention to business is due, to a great extent, the placing of the Stanley plate upon the successful footing it now occupies in Canada.

Mr. Knowlton was poorly in health during the winter and spring of 1893, and continued to decline through the summer. As the fall came on he realized that he must die, and with the same courage and careful attention to business matters that had ever marked his career, he made every preparation for the end, attending to the smallest matters. On November 1st he went to Auburn, Maine, failed very rapidly from that time until his death, which occurred on November 16th, 1893. The burial was at Monmouth, Maine.

The largest university is Oxford; it has twenty-one colleges and five halls.



HALF-TONE ENGRAVING

By BOSTON ENG. CO., BOSTON, MASS

"AN AMERICAN BEAUTY."

LATE POINTS ON THE HANDLING OF PLATINOTYPE PAPER.

We have received the following suggestions on the handling of platinotype paper from Messrs. Willis & Clements :

During cold weather the developer should be warmed a little—to a temperature of about 70° to 80° Fah. This will cause the prints to be smoother in deposit and also prevent mealiness.

Since publishing our last instructions we have somewhat modified the developing bath and our mode of using it. Instead of now reducing the developer very much and using glycerine, we prefer always to use a bath at its full strength. We find it a good plan to have two baths going at the same time, one full strength and the other reduced $\frac{1}{3}$ with water.

Prints from dense negatives, if they seem to be well exposed, may be started on the weak developer and finished on the stronger one. Overexposed prints can go at once on the weak developer and be finished on it. Prints exposed just right, and the under printed ones should always be finished on the strong bath. Give full development ; stir the solution with the fingers, or better, a glass rod, after developing each print, to cause the Platinum scum that is left on the surface of the developer in the process of developing to fall to the bottom.

Keep a towel handy to dry off the fingers, after putting in the acid or developing bath.

During development the print should be lifted two or three times from the developer and put back again ; in fact it is better to do this.

Thin negatives that have been made especially for the Aristo papers, should

be strengthened before printing in Platinotype,

Black grounds sometimes give granular prints, especially when vignettes are made from the negatives. Light grounds are better in all cases. Draped backgrounds, rugs, old furniture, etc., look wonderfully well in Platinotypes.

BABY RUTH MIXED UP.

Mrs. Lamont plotted and successfully carried out a very clever scheme whereby she kept a promise she had made and at the same time went clear of an annoyance to the President and Mrs. Cleveland. Soon after baby Ruth was born Rockwood got Mrs. Lamont to promise him that she would let him photograph the child, whose pictures would be such a source profit. The Clevelands decided that, while they wanted pictures of the child for themselves and their friends, they did not wish her picture to be scattered broadcast and perhaps used as an advertisement for baby food, sterilized milk, and the like.

The other day the photographer asked Mrs. Lamont to redeem her promise. "Why, you have photographed the baby," said she, "only you did not know it." It seems that Mrs. Lamont, true to her promise, sent baby Ruth to the gallery, but did not let the photographer know that he was looking at the President's daughter from under the black cloth. "Mr. and Mrs. Cleveland are pleased with the pictures," added Mrs. Lamont. And now the photographer is wondering which, of the multitude of infants, is baby Ruth. So far he has been unable to fix the identity, and her negative, and it is not likely that he ever will fix it. Mrs. Lamont took good care of that.

TWO ARTISTIC CHRISTMAS NUMBERS.

The holiday number of the *Buffalo Express* was probably the most elegant newspaper issue ever published. It was profusely illustrated with high class illustrations that would have graced the pages of an Art Journal, while the reading matter was timely and of absorbing interest. The usual weekly illustrated edition of this most interesting paper easily leads in the newspaper world of both continents, while the holiday and special editions are really works of art. Editorially, this paper is very strong and the circulation must be something enormous. All praise to the *Buffalo Express* for the good work it has done in elevating newspaper journalism.

The Christmas number of the *Photographic Times* was fully up to the high standard we expected from this enterprising journal. No pains or expense seems to have been spared in its production.

OUR SCRAP ALBUM.

MODERN EDUCATION. SCENE--Photographer's studio. Enter lady with baby.

Lady—"Good morning. I wish to have my child's portrait taken."

Photographer—"Certainly, madam. This is the little man, is it? Coo-koo. Bless um, little tootsee wootsee. Too-ka-love um Kchee!"

Up-to-date Baby—"Mother, will you kindly inform me whether the deplorable condition of this person is due to permanent dementia or spasmodic and intermittent insanity. Kindly proceed, sir, and make as creditable a likeness as lies within your apparently limited capacities."

Age appears to increase the value of everything except women and butter.

THE DETECTIVE FIEND.

On board the steamer a few days out from New York our stoker gave up to the heat and died. He was brought on deck to get what air there was, for we were in the Gulf Stream and even the passengers panted in the shade. Inside the smoking-room a party of men were playing poker, and an interesting jack pot was in the centre of the table. Red, white, and blue chips were poked forward, one after another, till spectators held their breath. Outside, the stoker was gasping at long intervals and waiting for death. At this moment the fresh young man with the Kodak came along. He was everywhere this summer. He was even in Paris and London making views of respectable American citizens who were abroad for the purpose of having a middling good time, and not for the purpose of having their pictures taken. In fact, they would pay a small bonus not to have their pictures taken sometimes. Well, the breezy youth got ready, and with a good light on the face of the dying man was about to enrich his collection, when a gentleman from New Orleans, who really had the best hand for the jack-pot, saw the performance. He rose with a sigh, and throwing down his hand face up, so as to lose the j-pot, he went to the port-hole and said: "Young man, if you do that I will throw you and your cursed concertina into the hungry sea. I may be a wicked man. I play poker, and I am somewhat unregenerate, but if you dare to photograph that poor devil on the shores of eternity just to brag about it when you get home, you will in less than two minutes make the loudest plunk that the Atlantic Ocean has been the recipient of for some time." He then resumed his wicked game of draw.—*Photographers' World.*



TAKEN BY MOONLIGHT.

MOONLIGHT PICTURES.

The above is a representation of a photogram taken by Mr. A. Barrett, of Cannington, Ont., a well known member of the of the P. A. of C. The picture was taken by moonlight about ten o'clock, on the evening of October 25th, 1893. The exposure given was two hours. The above picture and another taken the same evening, one on a Red Label Star, the other on a Stanley 35, were exhibited by Mr. Barrett at the convention last November, and attracted considerable attention. Mr. Barrett claims these pictures to be the first successful ones taken in Canada.

Since writing the above we have received a "moonlight" picture from Mr. W. H. Sherman of Toronto. It is a view of Sturgeon Point Lake, taken at 9 p.m., on July, 1893, exposure 30 seconds. It, however, is not so sharp as Mr. Barrett's, showing plainly that it is a "moonlight," while Mr. B's. is nearly as well defined as a view by daylight.

THE AMERICAN ARISTO CO. FIRE WILL NOT AFFECT THE FILLING OF ORDERS.

In announcing the loss of one of their factories by fire, the American Aristo Company say:

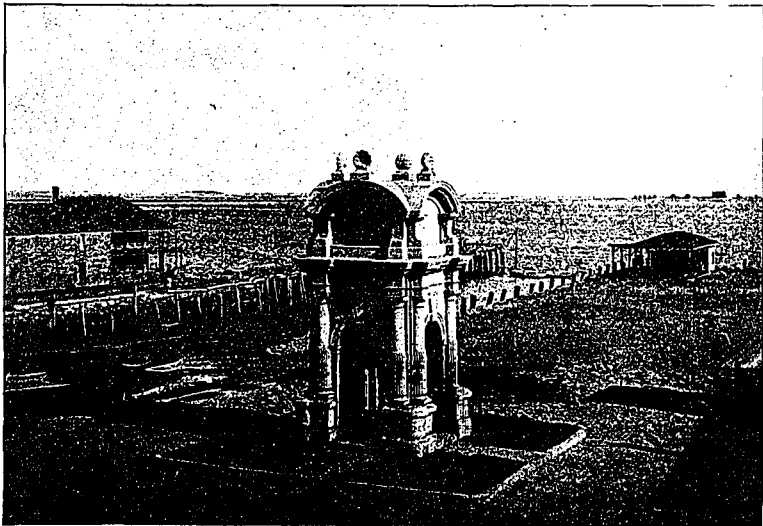
"We regret to announce that our factory No 1, together with its contents, was entirely destroyed by fire on December 22nd. This, of course, is a considerable financial loss to us, but we are glad to be able to assure the consumers of American "Aristo" paper that it does not mean to us, nor to them, any interruption of business. During the past summer we built factory No. 2, to provide against any possible contingency which might arise to interrupt our rapidly growing business. The machines for factory No. 2 are in the building, and will be placed and adjusted, ready for operation in a few days, and within ten days from this date we will be in a position to fill all orders promptly, as heretofore.

Yours very truly,
AMERICAN ARISTOTYPE COMPANY



HALF-TONE ENGRAVINGS.

BY BOSTON ENG. CO., BOSTON, MASS.



A NOTICE OF OUR COMPETITION AND PRIZE WINNERS.

There is a splendid collection of amateur photographs on view at the rooms of the Toronto Camera Club. They are for the most part the prize winning pictures in the recent competition held by the CANADIAN PHOTOGRAPHIC JOURNAL. Many of the most celebrated amateurs in the United States competed, and the standard of the work is unusually high. There are some charming little pure landscape studies in platinotype and bromide. The principal prize-winners are as follows: 1st prize, casket of interchangeable lenses, awarded to Alfred Stieglitz, New York city; 2nd prize, silver medal, awarded to Floyd Vail, Kingston, Ont., and New York; 3rd prize, bronze medal, awarded to W. Braybrooke Bayley, Toronto; 4th prize, bronze medal, awarded to W. B. Post, New York city; 5th prize, bronze medal, awarded to Clarence B. Moore, Philadelphia, Pa.; 6th prize, one year's subscription to CANADIAN PHOTOGRAPHIC JOURNAL, awarded to Robert E. M. Bain, St. Louis; 7th prize, one year's subscription to CANADIAN PHOTOGRAPHIC JOURNAL, awarded to Harry English, Toronto; honorable mention, W. Bull, Quebec, Que.; Mrs. R. M. Wilson, Boston, Mass.; Geo. Lees, Hamilton, Ont.; Roswell Goldie, Guelph, Ont.; J. A. Rueff, Ottawa, Ont.; A. H. Baker, Hamilton, Ont.; W. H. Moss, Toronto, Ont. The views will be on exhibition to the public January 18th, from two to four o'clock.—*Toronto Mail.*

PAINTER AND POET

To one God gave the brush, to one the pen,
And theirs the blest endeavor to impart
In rhyme and color to the world of men
Some of the loveliness of Natures heart.

—F. D. Sherman, in *Harper's Weekly.*

(*British Journal of Photography.*)

THE PHOTOGRAPHIC REPRODUCTION OF PAINTINGS.

EDWARD DUNMORE.

There are few photographers who, at some time or other, have not been requested to copy an oil painting, and, I may add, few that, setting aside the solatium in the shape of £ s. d., have not wished that oil painting had never been painted.

I allude especially to those photographers who run a general business, portraits chiefly, with odd jobs of different classes occasionally thrown in. Nothing in the whole round of photographic work is more tantalizing than having to copy a large old oil painting, between times, so to say, in an ordinary portrait studio, for, of all processes more than others, that of copying oil paintings requires a special form of studio and special lighting to get the best results with a minimum of worry. The maximum of trouble is involved when working, as indicated, in the usual portrait glass room. To make even a presentable copy of a difficult subject necessitates a general upset of the place; blinds that answered very well for portraits are no good, or worse than useless; furniture, fittings, screens, and reflectors are all in the way, and must be cleared out; in fact, there is a cussedness about the whole job that is excessively irritating, that is, if one tries conscientiously to get as good a result as possible. But much of this work is performed in a very indifferent manner, owing chiefly to the outside difficulties that surround it—comprised in the complete modification of studio arrangements and light. The time occupied in getting the painting suitably fixed and protected from improper light—on a day with intermittent gleams of sunshine—is a thing to be remembered, and, unless the size of the picture is small, and therefore fairly manageable, it is somewhat doubtful if we get the best result with all our trouble.

Let us now see what we can do in the matter. A day is appointed when ordinary business is expected to be slack, and, with a great deal of manœuvring a large oil painting on a heavy stretcher is brought into the studio. As a preliminary canter, one corner is sent through the roof. After this *contretemps*, the painting is safely set against the studio wall, nearly touching the glass with the two top corners; it is then found that the canvas requires tightening; the picture is moved, the necessary strain given by driving in the keys with a hammer. It is now fixed in position, and the following trouble presents itself. A 12x10 plate,

the largest we work, will not be large enough, so it must be taken on two plates and joined. The first thing is to get the camera the proper distance from the picture; then stretch a cord tightly across the room to a nail on each side, perfectly parallel with the base of the picture, as a guide for the camera; then raise the lens *exactly central with one half* of the picture, which may be temporarily divided by a piece of white tape stretched from the top edge, to be, of course, removed before exposure.

Now comes the most difficult part—so curtaining the room that there shall be no improper reflection from any part of the half of the picture about to be operated on. It is almost always necessary to hang up a dark curtain straight across the room over the camera in order to cut off any direct front light. Place the eyes as near as possible in the position of the lens, and carefully examine the picture for reflections. If there are any, and it is almost certain there will be, cut off the light that produces them. Finally, look on the camera screen and see that the whole thing is properly square and true with the frame of the ground glass. A small plate as a trial for exposure had better be taken first for economy's sake, then any alteration may be made on the larger plate if it has been found too much or too little. If it is an important job, it is best to take two plates of each half-picture. One half being taken, move the camera level with the centre of the other half, examine for reflections, and give the same exposure, or I should better say, get the same exposure, as the light may have varied. In each half an inch or more of the *central* portion should be reproduced on each plate for the more easy joining up afterwards. A great advantage is sometimes gained by sponging the surface of the painting with old ale, glycerine and water, or diluted albumen; but this must be done with the *greatest circumspection*, and it must only be *just moistened*, not slopped on. It will remain moist during the copying, when it must afterwards be carefully removed by sponge and clean water, and dried with a soft cloth. This application makes the surface more even, and removes any sunk-in appearance.

In the foregoing we have supposed a case in which the lighting is not altogether under the control of the operator. When it is, it should be nearly as possible the same as that in which the picture was painted, and on no account should the picture be turned up to copy it, as under no conceivable circumstances would a picture be painted lighted from below, which would be the effect of turning a painting upside down. An alternative plan of copying a painting too large for the studio is by taking it off the stretcher and tacking each end to sufficiently long rollers, round which the canvas can be rolled. These can be fixed upright by any convenient device, and kept taut by laths nailed at each end of the rollers after sufficient of the canvas has been unrolled for copying, or this arrangement can be suspended from the roof. Much depends on the form of the glass room. If this plan is adopted, the camera remains unmoved during both ex-

posures, and the lighting once right requires no further attention. It goes without saying that the suspended picture must be made to remain perfectly quiescent by cords or laths fastened to the floor, it requires a certain amount of care and trouble, but, at any rate, provides a method of dealing with pictures that could not possibly be done on their original stretchers in the space at disposal.

Orthochromatic plates are invariably the best for picture-copying, and it is astonishing the excellent results that may be had from unpromising subjects by their use and the judicious selection of screens. At the same time they are far from being universally used, despite their advantages, in many studios. If ordinary plates are worked, it will be found an advantage to carefully cover the orange-yellows on the painting with a slight wash of *Naples* yellow water color, and the blues with a thin wash of gamboge, which can be easily removed after the picture is photographed. Many of the excellent copies of pictures we see are from duplicates in monochrome; in fact, before the advent of orthochromatism, it was the usual plan adopted with any important modern picture intended for engraving, but less important works had to be carefully doctored by the photographer prior to copying. In the foregoing remarks we have alluded to large works. With *small* pictures the difficulty of properly lighting is infinitely less. They can be fixed on a head-rest and moved anywhere in the studio for a suitable light with a minimum of trouble. The same rules, however, apply as to reflection (as with the larger work) and to the relative positions of lens and picture.

With regard to exposure, it should always *be full*. Any under-exposed oil painting copy is bound to be a failure. Properly exposed, a normal developer will work well; and, if the subject is a trying one, consisting of much yellow and brown, a little extra pyro is an advantage, in fact, a stronger developer altogether may be used. Water-color drawings are less troublesome than oil paintings to copy. There is less difficulty in avoiding reflections, but they cannot be doctored or manipulated in any way on the surface without danger of damaging them. The only way of treating them, orthochromatic plates not being available, is to place them behind thin glass, and put some thin washes of transparent colors on the glass, and a thin film of *Naples* yellow over the yellow and orange. A great improvement may be effected if this is properly managed.

AN APPEAL TO ROBBIE BURNS.

[On behalf of the sufferers from the granting of his fatal wish.]

BY ELIZABETH FLINT WADE.

Dear Robbie Burns :

Once on a time,

You wished, in smoothly flowing rhyme,
That "some kind power the giftie gie us,
To see oursels as ithers see us."

Ah, had you humbly prayed for this :
 " Oh, give us ignorance and bliss,
 " Help us to bear our present lot,
 " Nor flee to ills that we know not,"
 The coming man your name had blessed
 Instead **** * * * * *

**** (the explanation is suppressed,)
 For some ill power your wish o'erheard
 And you were taken at your word.
 And we can see without disguise,
 How we appear to others' eyes,
 But 'tis no boon, as you shall see ;
 It brings, instead, much misery.

Highwaymen bold, that in your day,
 Prowled up and down the king's highway,
 Were gentlemen—aye Christians, too—
 Compared to this malicious crew
 That now infests each lane and street,
 Whom we in walks abroad must meet.
Those simply asked for watch or purse ;
These ask for nothing which is worse ;
Those sallied forth with sword or gun ;
These are not armed with either one.
 They "press a button," that is all,
 But none escape them, great or small,
 And whether we're prepared or not
 We're caught by artists on the spot.

I have a portrait—old, 'tis true,
 But fine—and, Robert, 'tis of you.
 A sweet, attractive comeliness,
 Is in your face, and in your dress.
 The artist—may he e'er be blessed—
 Has shown you at your very best.
 Suppose, instead, some wretch accurst
 Had caught you at your very worst,
 And "fixed" you to be handed down,
 In pose, to shame a very clown.

When 'neath the hawthorn's fragrant shade,
 You warmly wooed your Highland maid,
 "Wi' mony a vow and fond embrace."
 I wonder, when such was the case,
 If you'd have blessed the wily fiend,
 Who, by the treacherous birch-tree screened,
 The button—not the trigger—pressed,
 Just as you clasped her to your breast ?

Perchance you wished to slyly sip
 A friendly social glass. Your lip
 Has scarcely touched the beaker's rim—
 Snap goes the button—"I've got him !"
 And chuckling imp next day displays,
 "Proof" of the error of your ways.

When at your Nancy's feet you knelt,
 Pray tell us how you would have felt
 If you had heard that fatal snap,

Just as you whimpered on her lap.
 And she—the jade—about to give

A well developed negative.
 Would you have said then, pert and pat :
 "A man's a man for all o' that ?"
 I fear your locks you would have torn,
 And groaned, "Ah ! man was made to mourn."

Yet this and more we've had to bear,
 We turn to you in our despair,
 And beg you, without ceasing, pray
 The gods to take their gift away,
 And give us back those halcyon days,
 When we pursued our various ways,
 Without a thought, or fear, that we
 Should see ourselves as others see.

More grievances I could disclose—
 For these are not one-half the woes
 Your fatal wish has brought to men ;
 But this is quite enough, I ken,
 To show our plight, and why to you
 Redress we look for ; then, adieu,
 Until we meet where are no days.

Yours,

VICTIM OF THE CAMERA CRAZE.

BOOKS AND PICTURES RECEIVED.

We have to thank Messrs. Percy, Lund & Co. for a handsomely bound volume of the "Practical Photographer" for 1893. The P. P. is one of our most welcome exchanges.

All interested in the Lantern should procure the double catalogue of J. B. Colt & Co., New York. It is probably the most complete catalogue of this line of goods published. It will be sent free on application.

"Amateur Photography," by W. I. Lincoln Adams, New York. We are pleased to note that this useful little book has reached a second edition. It will be found most useful to the beginner, and will undoubtedly reach several further editions.

The very elaborate catalogue (illustrated) of Messrs. E. and H. T. Anthony

& Co., New York, is received. It seems to contain about everything under the sun that could possibly be used in photography, and would undoubtedly prove a valuable aid in placing orders for stock.

From Murray & Son, Brockville, we have received a very tastefully grouped series of nine views of the Thousand Islands. Messrs. Murray & Son's views of the St. Lawrence are well known, and Mr. Alex. Murray could probably write a very interesting book on his experience in securing the complete set of negatives that this firm possess of St. Lawrence scenery.

The "British Journal Photographic Almanac for 1894," London, England, Henry Greenwood & Co. This generous publication, if the increase in distance between the covers be kept up, will soon attain such size as will necessitate the publishers sending each volume by freight. '94 gives '93 an even hundred pages better, making a total of 1336 pages for the current number. The reading matter, tables, formulæ, etc., are of great interest, and of the high order always expected of this year book. The sale, as usual, will be something enormous, and everyone should make sure of having one.

The "American Annual of Photography and Photographic Times Almanac for 1894." New York, the Scovill & Adams Co. The Photo. Times Annual, as it is familiarly termed by its many friends, is fully up, this year, to the high place in photographic literature that has always been justly awarded it each year for the past eight years. To keep the high position it occupies, in these days of photographic advancement, means the fulfilment of

the old saying: "As good as last year won't do." The '94 Annual is fully up to the times, contains two photographic illustrations, and an interesting frontispiece, printed in three colors of the Kurtz process, a large number of original articles, and the usual useful tables, formulæ, and general information, make this one of the most interesting of the year books.

ARISTOTYPES AND HOW TO MAKE THEM.
By Walter E. Woodbury. The Scovill Photographic Series, No. 48, The Scovill & Adams Co., New York.

This work is a most interesting addition to the Scovill Series, and in this age of aristotype papers, should prove of great help to the photographer.

The book is divided into two parts, one devoted to a most complete description of the manufacture and successful use of gelatine paper. The second dealing in the same instructive manner with the collodion process.

The book should certainly be in the "working end" of every gallery, and in the hands of every amateur above a "button presser." The formulæ given are numerous and practical, and will be found of great help. Mr. Woodbury has illustrated profusely, giving, besides numerous blocks illustrating the different processes described, *four* photographic prints, showing the effects obtained by leading artists on different brands of aristotype papers. Some practical remarks on "The Negatives" and an appendix of special treatments of paper and prints, etc., is added, and completes one of the most useful volumes it has been our pleasure to read in some time.

OUR NOTICE BOARD.

Take one of the \$10 spaces on our "Special advertisement" page, it will pay you.

Mr. J. C. Anderson, of Anderson, Robinson & Co., report a marvelous increase in the sales of "Stars" and "Eagles."

Have you a specialty? If so advertise it on our "Special Advertisement" page in a ten dollar space and note results.

Anthony's "Professional Pointer" for November, amongst other good things, contains an interesting article on American Aristo Mezzo plates.

Those working Bromide paper should send to the Eastman Kodak Co., Rochester, for their new hypo toning formula for enameled bromide paper.

Mr. Potter, 31 King St. E., Toronto, is offering his stock of superior quality lenses at about half price, owing to his giving up this branch of business.

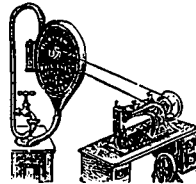
There, also, will be found the card of the Walpole Chemical Works, whose brand of "Walpole Hypo" is now used by about all the leading photographers of the States. It is chemically pure and full strength.

A most interesting catalogue of their shutters, including the new "Columbian Triplex" is issued by the Prosch Mfg. Co. of New York. The line of shutters for studio and out-door work, made by this firm are very popular in Canada as well as the U.S.

Some work seen lately done by the Williams' Flashlight apparatus, was simply grand. With one of them in the studio, old Sol can do as he pleases, shine or not, and, if desired, business can be doubled by evening work, orders for them are being filled in rotation and Canadian photographers wanting them should file their order at once. E. & H. T. Anthony & Co. are the agents.

We have received a great many inquiries at this office for a good place to get enlarging done, Mr. H. N. McDonald, of Mount Forest, is now prepared to quote prices for about everything in this line that is wanted, and his standing as a photographer should guarantee good work. His advertisement will be found on our page of "special advertisements."

One of the features of the year was the placing on the market by the Britannia Works Co. of their new Matt Surface "P.O.P." This paper is a most valuable addition to the family of printing papers. By its use the trouble and labor of squeezing prints upon ground glass is rendered unnecessary. Matt P.O.P. has a perfect Matt Surface and is treated exactly the same as for ordinary prints, the toning bath and handling being the same. The range of tones is said to be greater than with the usual Aristo papers. We have not been able, as yet, to get any Matt P.O.P. for trial, but sample prints now in our hands are extremely fine and speak volumes for this most interesting paper. We will speak more fully on this paper next month when we have a chance to test it.



Patented April 25, 1893.

We have had an opportunity of inspecting Bolgianos' "Little Giant" water motor, a sketch of which is given herewith. It is made in two sizes, the smaller one being specially adapted for running sewing machines, small electric light dynamos, etc. The larger size is very heavily built and is capable of working printing presses, washing machines, etc. The motors can be fitted to any smooth water tap in a few moments and can be detached and swung out of the way instantly. They are exceedingly useful engines, and are well and substantially made. Mr. Wm. Gimlette is Canadian agent for the manufacturers.

two lantern competitions were held. The 1st prize, presented by Mr. Neilson for best animal slide, was divided between A. M. Ross and W. H. Moss. The 2nd prize, given by Mr. Croil for best slide of main entrance to new Parliament Buildings, was won by Mr. Moss.

On Monday evening, 15th January there was a large turnout of members, notwithstanding the disagreeable state of the weather. The feature of the evening was the exhibition of the choicest of the prints sent in to the competition conducted by THE CANADIAN PHOTOGRAPHIC JOURNAL recently. A large number of very fine prints were shown and greatly admired by the members. It was quite noticeable the manner in which the platinotype and bromide matt surface prints predominated.

Two lantern competitions were then held and proved very interesting. The prize for the best botanical slide was won by Dr. E. E. King and President Croil was a close second. The prize for the best architectural slide was awarded to Hon. A. M. Ross for a fine view of the Parliament Buildings, Ottawa.

SNAP SHOTS.

The following gentlemen have recently been elected members: Messrs. John Nairn and J. E. Brown, of Toronto, and Mr. Bert. S. Cane, of Newmarket.

The annuals for 1894 have been bound and placed in the Reading Room.

The Third Annual Exhibition will be held during the week commencing Monday, Feb. 19th, and will be a great success. There is a class for Genre and Figure Studies this year in addition to the usual classes.

(Notes from the Secretary's desk.)

THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.

New York, Jan. 1, 1894.

FIXTURES

- January 8th.—8 p.m. Board of Directors meeting.
 January 9th.—8 p.m. Regular meeting of the Society.
 • The discussion "How to Improve the Amateur Photographic Societies of New York," will be continued. (Further announcements for this date will be sent out on special card.)
 January 12th.—8 p.m. Special Exhibition World's Fair Lantern Slides, consisting of the work of members of this Society.
 January 22nd.—8 p.m. Board of Directors meeting.
 January 26th.—8 p.m. Exhibition of lantern slides.

ANNOUNCEMENTS

The Committee on the Seventh Annual Joint Exhibition have mailed to each member of the Society a circular announcing a competition among the members, from whose prints submitted, will be selected the photogravure illustrations for the catalogue. A "President's Medal" will also be competed for by members of the Society only, and will be awarded for the best picture, which must be entirely the work of the member. Under the same cover each member will receive a copy of the Rules and Regulations, Entry-forms, etc.

The Salmagundi Club is arranging for a sketch exhibition to continue for five days, beginning on January 12th. Sketches will be shown by members of the club in oils, pastel, water color, charcoal, and pencil, and the public will be invited to attend.

The annual exhibition of the Architectural League at the Galleries of the American Fine Arts Society in 57th Street, near Broadway, is well worth a visit. This year's exhibition has developed into a water color display of new and proposed buildings, which is quite interesting. The exhibition will continue until January 8th, Sundays included.

Another exhibition, to which the public is invited, is that of the World's Fair Exhibit of the Century Company, at No. 33 East 17th Street. They are in frames, drawings made in water colors, in oils, in sepia, in pen and ink, and in all the variety of pigments that artists use, which are the originals of the magazine illustrations. There is also to be seen original manuscripts of the many famous writers in the Century. There is also displayed three or four old daguerreotypes found upon the bodies of confederate soldiers, in one of which a lady at the fair recognized her brother's portrait.

In THE CANADIAN PHOTOGRAPHIC JOURNAL competition Mr. Alfred Stieglitz, and Mr. W. B. Post of this Society were awarded first and fourth prizes respectively.

It is probable that the "Secretary's Notes" will be discontinued after this issue, and be substituted by a monthly journal containing the papers read before the Society.

JERSEY CITY ATHLETIC CLUB.

CAMERA DIVISION.

Mr. Floyd Vail, who won 2nd prize in THE CANADIAN PHOTOGRAPHIC JOURNAL Competition, represents the Kingston and Pembroke Railway in New York City, and is a prominent member of the Camera Division of the Jersey City Athletic Club.

CALIFORNIA CAMERA CLUB.

The 44th illustrated lecture of this club was given at the Metropolitan Temple on the evening of January 19th. The subject was "Westminster and the Famous Abbey."

The lime light exhibition given lately by this Camera Club, for the benefit of the club's apparatus fund, was very successful, over a thousand dollars being realized. A trip to the White City, was the subject.

December 27th the Club gave a lime light exhibition to over one thousand of the street children of San Francisco. From the report furnished of a 'Frisko paper, the comments on the different slides by "De Gang," were fully up to those heard at a regular "club night."

THE PHOTOGRAPHIC SOCIETY OF JAPAN.

A regular meeting of the above-mentioned Society was held at the rooms of the Geographic Society (Chigaku-kiokai) Nishi Konya cho, Tokyo, on the 8th inst., at 5 p.m., Prof. J. Milne in the chair. The minutes of the last meeting, having appeared in the *Japan Mail*, were taken as read.

The following gentlemen were unanimously elected members: Capt. W. H. Forbes and Messrs. L. Brower, C. M. Duff, Kano, Emil Marx, and K. Sato.

Mr. Kajima Seibei showed a panoramic camera for working films 45 x 16 inches and including an angle of about 120°. The principle of the camera is as follows: The film is placed in a flexible dark slide that can be bent into a circular form constituting about one-third of a complete cylinder. The lens can be revolved on a vertical spindle, the axis of which passes through the optical axis of the lens. The light is allowed to reach the film only through a narrow slit close to the film, this slit being at the end of a tapered box fixed to the same front as the lens and revolving with it. The camera is by Scovil, Adams & Co.

An ingenious arrangement for photographing from a captive balloon was shown by Mr. K. Ogura, of the Photographic Laboratory of the General Army and Navy Staff. The camera is suspended on gimbals on a frame so arranged that the ground glass will remain either in a vertical or horizontal plane or in a plane at any intermediate angle as desired. The exposure can be made by an ingenious electrical arrangement.

Two prints from the same negative were shown by Messrs. W. K. Burton and K. Arito. In one far too great an expanse of nearly white sea appears between the foreground and the middle distance; in the second the distance is reduced, and the sky is added to with the effect that the picture is greatly improved. The effect is got by double printing, Mr. W. K. Burton presented to the Society, in the name of the Duke of Newcastle, several bottles of Messrs. Burrough, Welcome & Co.'s Photographic "Tabloids." These are small disks or "tabloids" of compressed photographic chemicals, of exact weight. Both Mr. Burton and Mr. K. Arito could testify to the extremely good results that could be got with these tabloids. They are likely to be of the greatest use to photographers either amateur or professional, whilst travelling.

Some excellent results of the balloon camera already mentioned, were shown by Mr. K. Ogura. Also a very beautiful colotype, 16 x 10 inches on paper 26 x 18 inches, from his own negative, by Mr. I. Tanaka.

The proceedings ended with a vote of thanks to the Chairman.

PERSONAL MENTION.

Mr. S. S. Jarvis, of Ottawa, was awarded a medal and diploma at the World's Fair for artistic photography.

A number of Mr. Bayley's pictures have been selected by *The Buffalo Express* for reproduction. We also hope to give our readers a few of his best pictures.

It is with sincere regret that we learn of the severe illness of Mr. Harry English, so well known as one of Canada's finest amateurs. Mr. English is also very popular in church and musical circles, and a host of friends sympathize with him in his illness. We wish him a speedy recovery.

Mr. W. Braybrooke Bayley, of Toronto, received honorable mention on eleven pictures out of fourteen sent in to *The Buffalo Express* competition, and also secured a prize in that of the *Troy Times*. This, with the medal won at the CANADIAN PHOTOGRAPHIC JOURNAL competition makes an extraordinary showing for one man in so short a time.

A number of those prominent in photographic lines have been on the sick list lately. Mr. A. M. Cunningham, of Hamilton, has just recovered from a quite severe illness. Mr. Frank Cooper, London, has been in the clutches of the "Grip." R. F. Smith, the well known stock dealer of Montreal, is recovering from a six weeks' illness, and Mr. R. G. Muntz, a leading member of the Toronto Camera Club, has been laid up a few days.

Mr. C. F. Stanley has taken the management of the Stanley Dry Plate Company. Mr. Stanley is thoroughly practical in the business, and under his management the Stanley Plate is sure to keep the old friends and make many new ones.

PRACTICAL FORMULÆ FOR PRACTICAL MEN.

FOCUSsing SCREENS. According to Herr Toch, the following method imparts a very fine grain to glass suitable for very exact focussing. Fix an unexposed gelatine plate, wash and then immerse in a solution of chloride of barium.

Then, without washing, dip it in a very dilute solution of Sulphuric acid, keeping it in constant motion.

A fine precipitate will thus be formed in the film.

ALUMINIUM FLASH POWDER.—The *British Journal of Photography* gives the following useful directions for the preparation of Aluminium flash light powder :

Powdered Aluminium	21.7	parts by weight
Antimony Sulphide	13.8	" "
Chlorate of Potash	64.5	" "

The three substances should be powdered separately, and the admixture made by shaking well in, say, a paper bag, grinding the mixture with chlorate of potash is said to cause a violent explosion.

The above burns in about 1-17th of a second. A mixture burning less rapidly is composed of

Powdered Aluminium	30	parts
Chlorate of Potash	70	" "

This burns in the fifth of a second.

ANSWERS TO CORRESPONDENTS.

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

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

All communications for this column to be addressed to
P. O. DRAWER 2602.

McG. & Co.—Will you not take a hint?

J. N. HIRON.—Not quite up to our standard, but we expect good things from you before many months.

KATIE.—The prints are simply charming; they are small but each is a gem—we are speaking sober facts. Thank you.

HARRY J. MOSS.—You will notice that we have decided to make our Retouching examinations a permanent feature of the Journal.

H. GRIDLEY.—The price of *The Photogram* will be one dollar a year, post free from England. By clubbing

your subscription with THE CANADIAN PHOTOGRAPHIC JOURNAL you can secure both JOURNALS for \$2.75. Send your subscription to this office.

MAX.—Put the case in the hands of a respectable firm of Solicitors. If you do not know of such a one, write again enclosing stamped envelope, and we will mail you the address of a Toronto firm that we know will push your case to a satisfactory conclusion.

E. FRIEDLAND.—Really, friend, your ingenuous letter is almost too good to repose neglected in the depths of the W.P.B.—yet such is its fate. Your attempt to secure a free advertisement in this column is praiseworthy in the extreme, but we cannot give it to you. Try the advertising department.

CHAS. H. HERWARD.—Many thanks for so energetically pushing the sale of our Christmas number. Our edition is already nearly exhausted and, as issuing a reprint will be quite out of the question, we fully expect to see copies of this number selling at a premium. It is very kind of you and many others to help us so practically. It is pleasure to strive to pay you back in some measure by still further increasing the value of the Journal.

W. BULL.—Chrysoidin is the material you require. It is soluble in collodion and is much better than aurine as its refraction index is almost identical with that of glass. The best way to use it is to first dissolve it in alcohol and then add the solution to your collodion. As you may have some difficulty in obtaining this material, I have sent you some by mail. Thank you for your article on "Method." If we can find any reliable firm capable of fitting the plateholders you require, we will put them in communication with you.

W. BULL.—Your letter of the 10th ult. was not at all tedious, on the contrary it contained much of interest. We like our readers to look upon us as their friends and to have them write us as freely as you have done. In reference to your contention re enamelling prints, you are mistaken in your impression that enamelled prints are universally condemned. Even the very best workers—those who almost always adopt a matt surface for their prints—admit that *there are* subjects which are more truly rendered by means of a glossy surface, although these cases are usually few and far between. Almost all of the prints you submit would be infinitely more pleasing if finished with a matt surface. The prints numbered 3 and 4 are, as pictures, by far the best of the collection, and would hold their own very creditably in any open exhibition. The color of No. 4 is pleasant to look upon and not at all too yellow. The fence post in No. 1 is part of the picture and is in no way obtrusive—in fact we consider it helps the general effect rather than mars it. The platinum toning of No. 4 should be a subject of general interest to our readers, owing to the recent controversy in England in which it was alleged that P.O.P. was not amenable to toning by platinum salts; we should like to have a short outline of your method of working, when you can spare the time. We would strongly advise a careful study of photography as applied to the industrial arts and sciences, such as half tone engraving and Ceramic enamels. H. Snowden Ward's new journal, *The Photogram*, to be commenced this month, will be of incalculable benefit to workers in these branches, and the price will only be a dollar a year. Regarding the latter part of your letter, one of us will answer you privately by mail. Prints have been duly returned as requested. We shall certainly be pleased to have some of your carnival shots and up country scenes.