



PRINTED ON _____ "O.K." GELATINE
LANDON'S ARISTO.

NEGATIVE ON
STANLEY PLATE.

THE CANADIAN PHOTOGRAPHIC JOURNAL.

DEVOTED TO THE INTERESTS OF THE PROFESSIONAL AND AMATEUR PHOTOGRAPHER.

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OUR ILLUSTRATION.

The photographic frontispiece this month shows the splendid quality of Landon's "O.K." paper. Mr. Landon has been steadily improving his paper for a year or so past, and has now got it to such perfection as really leaves no room for further improvement. "O.K." is fast becoming one of the most popular papers in use in Canada and we feel that the sample of work here shown will make many new friends for Canadian "O.K."

THE MONTH.

A WRITER in *Anthony's Bulletin* says that the smudgy results obtained when the "made-up" faces of theatrical people are photographed are due to wrong lighting; to lighting the face in the same way as an ordinary sitter. The upward light of the footlights must be duplicated in the studio if the best results are to be obtained. This is done by placing some twenty fifty candle-power incandescent lamps in position at the foot of the subject. The direct light is screened from the camera by a

concave reflector, and the intensity of the light varied by interposition of tinted glass sheets.

SOME lucky snapshotist secured an excellent negative of the Prince of Wales in the act of smiling, which netted him the very pleasing sum of fifty pounds and a penny royalty on every copy sold. Our informant does not say what kind of a "smile" the Prince was indulging in, and thus leaves us to draw our own conclusions.

PHOTOGRAPHY has proved a most valuable aid to the physician, says the *American Journal of Photography*, and the increased use during the last few years of photography for obtaining records of clinical conditions is a great advance in clinical methods. In many cases no verbal description can surpass a good photograph of the patient, and the value of the preservation of such photographs for comparison with the condition presented by the patient at a later date can hardly be exaggerated. Further, the preservation of such portraits and their comparison with the condition of the patients at later dates will often give valuable assistance in determining whether the treatment should be modified or resumed. In the same way photographs of diseased or injured portions of the body will often be of the greatest service, not only as contributing by their accuracy to the advance of medicine, but also in the interests of the individual patient.

THE publishers of the *Photogram* announce a series of prize competitions in connection with their maga-

zine. Over \$1,200 in prizes will be distributed in the various competitions, which are as follows: (1) For the best half dozen photograms suitable to use as initial letters, head pieces, or tail pieces; (2) for the best letter of not more than 1,000 words, giving advice and suggestions for the improvement of the *Photogram*; (3) for the best suggestion as to how the *Photogram* challenge shield could be best used for the advancement of photography in its widest sense; (4) for the best practical article on a photographic subject, to consist of not less than 1,000 and not more than 5,000 words—may be illustrated or not; (5) for the best practical article on a photo-mechanical subject, with same stipulations as No. 4; also (6) classes in landscape competition, and a societies' competition. All information may be obtained from the publishers of the *Photogram*, 6 Farringdon Avenue, London, E.C., England.

IN a local paper lately a case was shown where photography proved conclusively an alteration in one figure of a number where the change had been so skilfully accomplished as to completely deceive the eye. The case was in reference to the parochial school controversy in Manitoba, and was as follows: The Roman Catholic contention before the Privy Council of England and elsewhere has been that when Manitoba entered the Canadian confederation in 1870, the bill of rights adopted by the Government declared that the Catholic schools should not be interfered with. The Protestant contention has

been that, while such a declaration was made in a rejected bill of 1873, there was no such reference in the adopted bill of 1870. Catholics produced a bill dated 1870, which bore the stamp of being genuine, and which did contain the declaration. Now the Manitoba Government reveals by photographic process that the date on the bill produced is really 1873, but that the figure "3" has been changed into a "0." The evidence seems conclusive, and has created a decided sensation.

SPEAKING of raising prices, the *Photo-Beacon* gives the following conversation had at Detroit with a well-known photographer: "On asking him how business was he replied, 'First rate, the best year I have had for a long time,' and then he proceeded to tell how, in travelling home from the St. Louis convention of the year before, he was worried to death to devise how he was to make even expenses for another year. In his town there were a score of photographers, and prices had been run down to \$2.00; he was making an average of fifteen sittings a day at this price. It was nice to see the money rolling in, but he was staggered to find after paying bills at the end of each month that he had nothing left for himself—everything was swallowed up in running expenses inevitable with this amount of work. Something had to be done, and before the end of his journey he had about made up his mind what to do. At home he looked over his books, figuring out that expenses would be reduced by doing less work

at an increased price. He found that at \$6.00 per dozen it needed but three sittings a day to pay expenses, exactly attaining what he achieved by a rush of cheap work. Believing that he could depend on that number of sittings, he decided to make the plunge, ordered some fine mounts, etc., and hung out his banner with the strange device—strange unfortunately in these days—Cabinets, \$6.00 per dozen. The result astonished him, his sitters were scarcely less numerous than before, he has cleared off his debts, and now discounts all bills. How would this medicine, gentle reader, work in your case? Think it over.

WE have all heard of the hunter who was said to have bent his gun barrel to enable him to "shoot around a corner," and we have always been somewhat skeptical as to the success of the scheme; but a similar paradoxical effect is said to be actually produced by an improved patent of opera and field glasses lately introduced. This end is attained by the use of objectives that have been heretofore confined to telescopes; the rays of light being subject to four different reflections, through a system of prisms, on the way from the objective to the ocular. With these glasses, which magnify from eight to twenty times, objects may be observed from covered positions; for instance, by a peculiar adjustment of the lens, a man could be discovered behind a tree or other similar hiding places entirely out of the line of ordinary vision. The instrument can also be arranged to enable the operator to

look over walls, fences, or over a crowd of people, by holding it up and with the upturned face look into the oculars from below. A smaller instrument, built on the same principle and resembling opera glasses, is also manufactured, and is made adjustable to fit any eye, and by which particularly brilliant images are obtained at a theatre or opera; one important advantage being that the entire stage is at once covered in the range of sight, obviating the necessity of moving the glasses from one side to the other to follow the person or scene. It is now in line for some inventive genius to give us a hand camera, that, seemingly pointed at an object in front of one, will in reality secure a coveted group in the natural poses of people who don't know they are being "taken."

IT seems that the Directors of the Cotton States Exposition have made the same lamentable blunder in selling the exclusive right to photograph or sketch on the grounds as called down the disapprobation of thousands on the heads of the managers of the Chicago World's Fair. With this experience before them one would think they had steered clear of such a splitting rock. The *Scientific American* speaks strongly on the matter, as follows: "We are the well-wishers of the Cotton States Exposition, and, as such, we feel called upon publicly to express our surprise and regret that the management of this enterprise should have put a vexatious stumbling-block in the way of publications such as the *Scientific American* in the matter of illustrating the various

buildings and exhibits of the Exposition. It had been our intention to illustrate very fully the progress of the South as shown at Atlanta, and for this purpose we had sent our special artist to the grounds with instructions to illustrate freely the most interesting features of the Fair. We find, however, that our intention is confronted point blank with a cast-iron agreement that must be made with a certain Official Photographic Company before a photograph or a sketch can be made in the grounds. It would seem from the wording of the blank 'agreement' that the Department of Publicity and Promotion has leased the privileges of photography and illustration to what is styled an Official Photographic Company, 'having certain exclusive photographic privileges on the grounds of said Exposition Company.' Before the illustrated press can make even so much as a sketch on the grounds it has to make application to this photographic company, agreeing as follows: 'That all pictures taken shall be submitted to the Official Photographic Company, which shall decide if it is the desire of said company to copyright such picture, which said company may do; that should we' (the press) 'desire to purchase from said official company any' of our own 'copyrighted photographs, we will preserve the same from any other use than that for which they are bought, to wit, for illustrating said Exposition in the columns of said publication only; that after any negatives bought from said company have served the purpose of illustrating, all such negatives shall be de-

stroyed ; that we will not permit any such negatives to be used in any other publication whatsoever.' The lavish illustration of this Exposition in papers with a circulation such as that of the *Scientific American* gives to an enterprise like this an amount of free advertising and indorsement that it could scarcely get in any other way, and surely the very least return that the directors could make would be to give the illustrated press every possible facility and assistance in their work of illustration. It seems to us that the mere promptings of courtesy would suggest such a course. Considered merely from the standpoint of finance, the policy is shortsighted, and defeats the very end at which it aims. At best the revenue derived from this concession can be but limited ; whereas the free advertisement, both pictorial and written, by illustrated journals such as our own, would interest the public, and undoubtedly bring many thousands to the fair who otherwise, but for the suggestion, would stay away. It is evident that the revenue derived from such visitors would far exceed the paltry sum which this vexatious and ill-conceived concession will bring to the Exposition exchequer."

QUICK AS LIGHTNING! QUICKER THAN SOUND!

One of the most marvellous applications of the art of photography to the development of scientific facts was recently made by Mr. George G. Rockwood, of New York, as an expert in a legal contest. The question

to be decided was whether there was a break in the contact in a telephone wire when in use. One party claimed that there was a break in the continuity of the wires, or the two points which were brought together near the diaphragm. Now, the waves of sound produced by the human voice vary from four to five hundred per second up to thousands. Therefore it requires a photograph of those points which should be taken quicker than the waves of sound that pass upon the wire. Deciding upon a certain pitch, which was middle "G" and registering 750 vibrations per second, he photographed these points by the aid of a flash from the Leyden jar, which, according to the best authorities, was a twenty-four thousandth part of a second. So focusing his instrument by daylight, he waited until nearly midnight ; he then caused a trained vocalist to sing into the telephone upon the tone "G," setting it in vibration. He then made a series of photographs by repeated flashes from the Leyden jar, recording upon the plates various breaks in the two points of the wire, demonstrating to an absolute certainty by these various photographs that there was a break in the contact of the wires. Mr. Rockwood is the only one who has ever succeeded in this scientific experiment.

A GOOD BLACK VARNISH.—Dissolve 23 parts shellac in a hot solution of 8 parts of borax in 125 parts of water, gradually stirring in sufficient lamp-black until depth of color desired is secured.

ON ACCESSORIES.

By DR. HUGO ERICHSEN.



EVERY little attention was paid to accessories in days gone by, in fact they were considered of minor importance. Less than twenty-five years ago, photographic studios were notorious for their lack of artistic furnishings of any kind. They

were not considered necessary to the business. In these days of progress, when every photographer is an artist, or ought to be, a studio is incomplete unless it contains artistic accessories of various kinds. I believe a storeroom should be maintained in connection with every gallery, where all artistic furniture, weapons, draperies, etc., could be kept until wanted. This would enable the artist-photographer to select just what would be required to arrange a tasteful interior, one that would look more like a refined home and not have that "sham" appearance that is so painfully apparent in many of the photographs of to-day. Moreover, in this wise he could avoid a similarity of back-grounds, as the same accessories, in the hands of a capable man, would serve for the arrangement of a number of interiors, all differing in appearance. A prominent American photographic magazine recently established a department for the accommodation of photographers who find it impossible to obtain artistic accessories at home.

One of the lessons it teaches in its columns is how cheaply such accessories may be purchased. I believe the time is come when solid furniture will take the place of the poor imitation stuff that may be found in most studios, and I rejoice at the prospect. I believe if a Boston firm can afford to place a carved chair manufactured at the famous Guggenheim workshops on the Grand Canal of Venice on the market for \$16.50, other goods of a like nature ought to be in proportion. In many cases the price of artistic furnishings has been prohibitive, and has naturally restricted the sale of such articles. With the increased demand comes increased competition, which would naturally tend to reduce the price.

I would not like to be understood as arguing against painted back-grounds. They are indispensable, as natural back-grounds (and this refers especially to landscapes) cannot be had. They are not of paramount importance, however, and should only be regarded as means to an end. With their aid, and by means of the artistic accessories at his command, the artist-photographer may create scenes that would do credit to a knight of the brush.

Any photographer who is handy with tools may construct pieces of furniture that will add greatly to the picturesque appearance of his place of business. A tabouret may be made cheaply, for instance, and always look beautiful and appropriate.

The majority, however, will prefer to buy the furnishings of their studios than to attempt to make them with

their own hands. Any endeavor, therefore, to place artistic accessories within the reach of the multitude is highly commendable, and deserves to be encouraged by every progressive photographer.

Europe is crammed full of artistic goods of various kinds, on which the price is generally quadrupled by the time they are placed on sale in this country. If the price could be reduced on these articles to such an extent that they would be within reach of the modest purses of the photographic fraternity, it would go far to solve the problem of how to obtain artistic accessories at a moderate expense. There are the imitations of old Delft ware, for instance, in many cases better than the originals. There is no reason, considering the cost of production, why those who admire them should be expected to pay such a ridiculously high price. Then, too, there are the wonderful imitations of old weapons made in Germany, a full assortment of which was exhibited at the Columbian Exhibition, where it excited much attention. One of the swords which the writer admired was valued at twelve dollars, a price that was greatly in excess of its actual value. The same comments apply to artistic furniture, although it has become greatly cheaper than it used to be. In these days of the successful application of machine carving, artistic furniture ought to be cheap. Possibly high prices are maintained by the limited demand.

Reverting to painted back-grounds once more, I desire to say that I consider those that bear the images of furniture on their canvas as despicious

in every sense of the word. They never look natural in a photograph. The furniture generally throws impossible shadows, and looks out of place. Painted draperies not infrequently look effective, but, in my opinion, back-ground painters should mainly confine their efforts to the creation of plain back-grounds and landscape effects.

In conclusion, I would say that photographic studios should be as artistic in appearance as those of any



PHOTO BY DR. HUGO ERICHSEN.

other artists, and that they can be made so at little expense. All corners of the world yield inexpensive material that will beautify an apartment, and if the demand is created there would soon be a plenteous supply of artistic furniture and decorative articles at low prices. I trust, moreover, that every knight of the lens and camera will awake to the importance of the accessories he makes use of in the daily pursuit of his avocation, and it was for the purpose of bringing this desirable consummation about that this modest article was written.

ACETYLENE GAS.

The most complete and accurate information yet given out concerning the new acetylene gas is probably contained in the recent report from the Ontario Bureau of Mines. The report states that the process for the economic production of calcium carbide and acetylene is the most promising discovery that has been made in recent years for the supply of light and fuel.

The inventor, Thomas Leopold Wilson, is a Canadian. The materials used are common lime and carbon—in any form—hard or soft coal, coal dust, petroleum, tar or peat. These are treated in an electric furnace, and Mr. Wilson is confident that where electricity can be generated with water-power, the cost of manufacturing calcium carbide brings it easily into competition with other materials from which fuel and light are obtained, and that a plant erected near a great water-power like that of Niagara Falls will supply a continent at a figure with which coal gas cannot compete. The power of Niagara is ample for almost any conceivable requirement; while it is alongside a mountain of limestone, and coal dust or culm can be had at little more than the cost of hauling from the mines of Pennsylvania and Ohio. Arrangements are already being made to procure electrical energy for this purpose from the falls on both sides of the Niagara River from the company which controls the power franchise at the falls; so that it is probable that the carbide will soon be manufactured on a commercial

scale in both the United States and Canada.

The carbide, containing forty parts by weight of the element calcium, which is the basis of lime, and twenty-four parts by weight of carbon, will be cast direct from the electric furnaces into rods, or cylindrical cart-ridges. One of these, twelve inches long and one and a quarter inches in diameter, will weigh a pound, and render five cubic feet of gas when simply subjected to the action of water, which is allowed to drip upon it slowly from a pipette or dropping-tube. The oxygen of the water combines with the calcium of the carbide to form lime, while the hydrogen of the water unites with the carbon of the carbide to form acetylene. Owing to the great richness of the gas, it can only be used in flat flame burners, in which it emits a light greater than any other known gas; its illuminating value, figuring on a consumption of five cubic feet per hour, being no less than that of two hundred and forty candles.

Prof. Lewis asserts that the calcic carbide can be produced in the United States for about twenty dollars per ton, and the beautifully pure lime obtained by the decomposition would net, as a by-product, two and a half dollars per ton.

The possibility of liquifying acetylene by moderate pressure permits enormous volumes of gas to be compressed into the liquid state in small wrought iron or steel cylinders, from which it may be fed slowly through burners. This quality promises to make it of the greatest possible value for floating buoys, and also for port-

able lamps, where there is no ordinary gas supply. In this way it would take the place of the illuminating products of petroleum, and thus offset the alleged exhaustion of the oil fields. In that event the value of the new discovery might be so great as to be beyond computation.

A TALK FROM MR. CARBUTT BEFORE THE DETROIT CONVENTION.

LADIES AND GENTLEMEN: It gives me great pleasure, I assure you, to address this Association and to see so many new faces. It gives me further pleasure to meet with some of those who were present at the meeting of the Association fifteen years ago. No doubt all of you notice what wonders have been attained by photography since the first meeting named. It is true that, although much progress has been made in the chemical department, still greater strides have been made in the art department. We may regard the exhibits in the adjoining galleries as a crowning triumph for the photographer; moreover, they should inspire the younger members to go forward and try to excel what they here see, if possible.

There are not only possibilities but probabilities in photography to-day which were not dreamed of fifteen years ago. Now even the art student is making photography his life business, and is showing further what photography is capable of in this direction. In the chemical department the manipulation has, I believe,

reached about as wonderful results as can be expected, and it now depends upon the photographer to follow on and improve upon the efforts of the past.

The modern gelatine dry-plate process was first made practical in 1871 by Dr. R. L. Maddox, of London, but the plates he produced were of very slow speed; and it was not until 1875 that the gelatine dry-plate began to displace the wet collodion process, when a Mr. Bennett, an amateur photographer, discovered that by long digestion at a low temperature a great increase of sensitiveness was secured, beyond anything achieved either by the wet or dry collodion method. The results obtained by Mr. Bennett soon set others to investigate the new gelatine process. Among them, Col. Stuart Wortley, a skilled amateur, who found by digesting at a high temperature for a short time, say three-quarters of an hour, as high a degree of sensitiveness was secured as when digested for many hours at a low temperature. The professional photographers of England, learning of these results, turned their attention to preparing gelatine dry-plates for use in the studio and field, and, on the establishment of manufactories of dry-plates, gave up the use of the wet collodion method, owing to the superior sensitiveness and great convenience of the dry-plate.

I had in Philadelphia for some years been working with gelatine printing methods. In 1877 I commenced experimenting with making emulsions by the new gelatine method, and my results being quite encouraging, and

feeling certain that the gelatine dry-plate would soon be adopted in America, in 1878 was the first to commence the manufacture of gelatine dry-plates in the United States, under the name of the "Keystone Dry-plate." Other makers soon entered the field, and for some years since the gelatine dry-plate has entirely supplanted the wet collodion process. The splendid specimens of the photographer's art now on exhibition at the Detroit Art Institute are from negatives produced on the gelatine dry-plate. So much for history.

Especially in the line of permanency should your efforts be directed, that the pictures you produce may not be fugitive. This one thought should be present with you every day, namely, that while you produce chemical and artistic results and present them to your patrons, you should at the same time be able to do so with the consciousness that in years to come they may look upon them as being as permanent as engravings. Being familiar with the various processes of printing photographs from the beginning to the present time, it gives me pleasure to look upon the exhibition here and to note that photographers who have been striving in this direction of permanency have been awarded prizes. Make such pictures for your patrons that their children may look upon the portraits of their fathers and mothers in time to come with the assurance that they will always have them to look upon. The fugitive quality of many pictures made in the past I think many of you regret.

There are three processes that carry permanency with them, and they certainly must, by their artistic appearance, increase the business of the photographer and enable him to realize a larger return for his labors. I speak of the matt surface, platinum, and carbon pictures. The two last especially should have your best attention, since they are undoubtedly the most permanent pictures that can be produced. Certainly is this so with the carbon print. I have been familiar with the last, well, certainly more than thirty years, having made both carbon tissue and carbon pictures. In my mind the carbon printing process is the only one that secures all the value that is in the negative. The matt surface prints, however, as they are made to-day, are so close to carbon that if both pictures are placed under a glass side by side, only the most critical examination will tell which is which. Therefore, taking carbon as the standard of value, the matt surface pictures are to-day coming so close that it is hard to decide between them, even by an expert examination under a glass. I would say, therefore, give your best attention to the art side of photography and to the producing of pictures of a permanent character.

I chanced to find in a closet a few days ago at my factory a few pictures that will illustrate about as well as any the progress that has been made in the photographer's art during the last fifteen years. If there are here any of the older members that were present at the convention in Chicago in 1870, then I will be glad to present them copies first. The picture rep-

resents the group of the first P. A. of A. Convention, held at Chicago at the time named. I have about forty or fifty copies only, so that I think those who were present are entitled to have them first. They will be presented in this order.

The negative was made on a Carbutt "Keystone" dry-plate; exposure two seconds, with double lens; equivalent focus ten inches; stop F. 40; exposed through glass to get a reversed image. The prints were made by the permanent artotype process, Harroun & Bierstadt, printers. They are not much as specimens of photography as we view such now, but they are a good representation of what photography was at the time they were made. (Applause.)

PRACTICAL SUGGESTIONS ON TIN-TYPING.



ESSRS. HYATT, of St. Louis, Mo., have issued a pamphlet, giving the following practical suggestions for tin-typing:

Suggestion No. 1.—
Preparing the silver bath:
Provide a glass bath and

box with a rubber dipper for immersing your plate in the solution. Then dissolve 4 ounces nitrate of silver in 42 ounces of distilled water. When thoroughly dissolved, test with a hydrometer. It should test about 40 grains of silver to the ounce of solution. Then add a small piece of iodide of potassium (about the size of a pea); shake well, and add about 10 drops of nitric acid, C.P., or enough to turn

blue litmus paper slightly red, which is an indication that the bath is acid. Now filter the bath very closely through absorbent cotton, after which the bath will be ready for use.

Suggestion No. 2.—Great care must be taken with the silver bath to keep it free from foreign matters of all kinds, such as hypo, iron, or even an over supply of iodide of potassium or nitric acid. Most any of the above is sufficient to create discord and cause trouble, in which case we refer you to suggestion No. 5.

Suggestion No. 3.—In the start of a new bath, you will observe that the tin-types you produce are inclined to have a slight scum or web over them. Don't try to doctor the bath by adding more acid or iodide, but let it act so, and in a short time it will produce the finest results.

Suggestion No. 4.—After working bath very hard, test it with the hydrometer, and if it tests below 35 grains take 4 ounces of distilled water, or more if you wish, and pour the bath into the water, *not the water into the bath*, shake the solution well and filter. After it is filtered then add nitrate of silver until the hydrometer test is 40 grains. Your bath will then be ready for use in the morning. This should be done each evening after a day's work.

Suggestion No. 5.—You should always have extra baths on hand. While working one have the other baths in bottles and hung up by a string tied around the neck, or standing in some safe place where the sun will shine on them as much as possible. When No. 1 gives out, bring in No. 2, filter it, and it will be ready to take

the place of No. 1. You will find sunlight a good doctor for the bath, whether new or old. In case the bath has become so worn out and contaminated with organic matter, you will have to resort to the last measure, viz., that of boiling or evaporating it. To do this use a porcelain evaporating dish and boil or evaporate the solution into almost a dry state. After the dish has cooled off, you can re-dissolve the contents in distilled water, filter, and treat the solution as described in suggestion No. 1.

If you will adopt and adhere strictly to the foregoing suggestions as given, we assure you that you will have no trouble with the bath or the action of the chemical, and your success will be crowned.

Suggestion No. 6. — Make fresh developer at least twice a day, and never allow the developer made one day to be used the next, as its power to do good work has left it. The cost is mere nothing. Mix your developer according to the following formulæ: Developer for positive collodion.

Water dist.	32	oz.
Proto sulphate iron	2	"
Alcohol, 98 per cent	2	"
Acetic acid, No 8.	2	"

Developer for extra rapid collodion.

Water dist	16	oz.
Proto sulphate iron	1	"
Acetic acid, No. 8.	$\frac{1}{4}$	"
Alcohol, 98 per cent.	$\frac{1}{2}$	"
Lightening	18	gr.

Lightening is a compound by the use of which the exposure can be shortened to fully one-half the time required for the usual method. With extra rapid collodion and lightening

you cannot help catching the babies every time.

Suggestion No. 7.—The bath, collodion and developer should be alike in temperature as nearly as possible all the time. This can be done by placing them in a suitable vessel filled with water, either warm or cold, as required. From sixty-five degrees to seventy-five degrees Fahrenheit is about right.

Suggestion No. 8.—The fixing bath is composed of cyanide of potassium (a rank poison) and water. There is no special direction as to strength, but the stronger the solution the quicker it acts. We would advise, however, slow fixing. Varnishing is done after the plate is thoroughly washed and dried.

GRANTS IN AID OF ORIGINAL RESEARCHES.

At the British convention it was decided to devote the surplus funds of the Association to the encouragement of research in connection with photographic processes, and in addition, that a medal be awarded each year for the most important contribution to photographic progress by discovery, investigation or invention provided, of course, that there has been such contribution of sufficient merit.

The Council have drawn up the following code of regulations:

(A) That the grants should be made to individuals, in accordance with the practice of the Chemical and Royal Societies, and that the formation of a committee should not be required.

(B) That applications for grants should be considered by a special "Research Grants Sub-Committee" appointed by the Council and entrusted with executive powers.

(C) That whilst each application must be considered on its merits, the following rules should be laid down: (1) An applicant for a research grant must present (a) a concise statement of the general nature of the proposed investigation and its object, with an abstract of any results that have already been obtained, and (b) a general statement of the way in which it is proposed to expend the grant. (2) A grant must not be expended on the purchase of permanent pieces of apparatus, except by special permission of the Research Grants Sub-Committee. (3) The receiver of a grant must make a general report of expenditure either at the end of or during the progress of the research, and shall then be entitled to receive either the whole grant or such part of it as may have been actually expended. (4) The receiver of a grant must present a full report at any intervening meeting. If necessary, in order to secure priority of discovery or invention, the results may at once be published by communication to such recognized national, scientific, or photographic society as the Research Grants Sub-Committee may decide.

The sub-committee appointed consists of Messrs. H. M. Hastings, A. Haddon, A. Pringle, W. Taylor and C. H. Bothamley.

LANTERN SLIDE-MAKING.*

(Continued.)

By SURGEON-MAJOR J. L. VAN GEYZEL.

DEVELOPMENT OF THE LATENT IMAGE.—There is a variety of developers to choose from, but as my demonstration to-night is only to show how a slide is to be developed, I will confine my remarks as much as possible within these limits; and for this purpose I will state that the



Photo by F. Hurviall,

Smith's Falls, Ont.

JUST LOOK AT YOURSELF NOW.

chief requirements of a good slide can be satisfied by using hydroquinone as the developer. The formulæ given by the makers are usually the best all-round formulæ, and so it is advisable to stick to them. I have here-to-night some Ilford special lantern plates, and so I will use the formula prescribed for them: Solution No. 1.

Hydroquinone	.....	4 gr.
Sodium sulphite	.....	24 "
Potassium bromide	.....	3/4 "
Water	.....	1/2 oz.

Solution No. 2.

Sodium hydrate	.....	2 1/2 gr.
Water	.....	1/2 oz.

For use, equal parts of these solutions are taken, and the whole is diluted with as much water again. It is advisable that the developing solution should be freshly made up; and in order to obtain the best results and have the development under control it is advisable, for a beginner at least, to use fresh developing solutions for each plate. Accordingly, to develop a dozen plates, three ounces of each solution should be made up as above, and each should be diluted to six ounces. Half an ounce of each can then be used for every plate. My plan is not to mix these equal parts of Nos. 1 and 2 solutions and flow them over the plate, trusting that all will go well. If the exposure has been nearly accurately timed this method will give satisfactory results; but who can accurately time twelve plates for twelve different exposures? As in developing negatives, so it is necessary, even more so in the case of lantern positives, to have the development in hand. I usually begin by taking equal parts of Nos. 1 and 2 solutions (diluted as above) in separate cups, adding first only a part of the alkali solution No. 2 and adding more alkali in smaller or larger instalments, watching the progress of development all the time. Provided that the plate has received sufficient exposure, this is the most rational, and in my hands it is the best, method of developing lantern slides. If a lantern plate is under-exposed, forcing up the picture generally ends in fog—in that case nothing is lost by not having added all the alkali solution in the first instalment.

In a correctly exposed plate the

image appears in about 40 seconds, comes up evenly and slowly, gaining density, showing well up on the surface without fogging of the high lights; and development is usually completed in three to four minutes. Towards the end of development pick up the slide from the dish, examine its density by transmitted light, and let development proceed while the slide is laid on the palm of the hand—the densest parts of the image should show fairly on the back of the plate when viewed by reflected light—and be ready to wash off the developer at the right moment, *i.e.*, before the high lights fog. Different brands of plates require slightly different degrees of development, some allowing of more veil than others, the veil clearing off in the fixing bath. Two good general rules in development are: don't be impatient to see the picture appear, and stop development as soon as the plate looks like a light print, and just at the moment that veiling begins rinse off the developer, and wash for a few minutes in a dish of clean water, then fix the plate in hyposulphite of soda. The undeveloped silver salt dissolves out almost in no time, but the plate should not be considered thoroughly fixed till it has been about ten minutes in the fixing bath.

There are two main objects to aim at in producing lantern slides, at any rate for oil-lamps, which is what the great majority of us in this country are condemned to use, *viz* :

(1) Thinness with plenty of detail, and not density. The densest shadows should not be so dense that print cannot be visible through them when the slide is laid down upon it.

(2) The highest lights should be clear glass.

In short, a good slide laid down on a piece of white paper should show detail everywhere, and should appear like a print upon the paper with a bit of glass over it. [Demonstration: Correct development of a slide, over-development, under-exposed, slide forced. Results compared, and what to avoid in them pointed out.]

LOCAL DEVELOPMENT is sometimes necessary to save a slide which would otherwise lack detail in the high lights. When the slide has developed sufficiently to make it apparent that the details in the high lights are hanging back, a soft camel's-hair brush is dipped in the alkaline solution No. 2 and applied over these parts, followed by a flowing of the developer over the slide by rocking the dish. This operation can be repeated until the desired result is obtained.

GENERAL AND LOCAL REDUCTION.—Slides which lack brilliance from over-development and veiling must be cleared, and for this purpose Howard Farmer's ferridcyanide reducer is the best. A few small crystals of red prussiate of potash are dissolved in some 1 in 10 hypo solution until it acquires a very pale sherry color. The slides are placed in the solution one by one, and as soon as sufficient reduction has taken place, it is quickly removed and rinsed under the tap. The slide should then be placed in some clean hypo solution for three or four minutes, otherwise the film will be stained yellow from the prussiate solution, and then washed as usual. If it is

desired to reduce the slide further, the operation can be repeated. The reduction is best performed in a white porcelain dish, as the action can then be watched against the bottom of the dish, which makes a good white background.

It not unfrequently happens that only a portion of a slide is too dense, or some part is veiled in which it is desired to obtain clear glass; for instance, it may be desirable to clear off the sky from a slide in order to put in suitable clouds. In such cases a slightly stronger reducing solution is applied by means of a camel's-hair brush to those parts which are to be specially reduced, the whole slide being occasionally dipped in weaker reducing solution to avoid hard lines. This operation is best performed with the slide held in the hand in a slanting position, so that the reducer drains away from the other portions of the image. The reducing solution should not be too strong, otherwise the action will be too rapid; its progress should be closely watched, and the slide put under the tap the moment the desired result is attained. [Demonstration.]

INTENSIFICATION.—Slides which are thin and washy can often be improved by intensification, after reduction. Any of the ordinary methods which are recommended may be employed. I myself usually employ the method of intensification, which I showed you at a previous meeting when I gave you a demonstration on the after-treatment of bromide prints. Briefly, the image is bleached with mercuric chloride, redevelopment with 1 in 60 solution of rodinal, and re-

duced again if required till the high lights are cleared.

TONES.—I have now shown you how a slide can be made of the usual black or bluish-black tones. *Warm Tones* can be obtained by using plates specially made for them, such as the Alpha plates, full directions for working which accompany the packets. But warm tones may also be obtained on the ordinary plates intended for black tones, by increasing the exposure about eight times and developing with a strongly restrained developer and plenty of patience, as the image under these circumstances should appear in about five minutes. Development proceeds then very slowly, and when sufficient density is obtained the slide is fixed and washed as usual. Mr. Hodges gives a method of obtaining ruddy sepia tones on Ilford special plates, which I have tried with success, and which I cannot do better than describe briefly. His formula is:

Sulphite of soda.....	240 gr.
Water	35 oz.
Citric acid.....	30 gr.
Pyro	40 gr.

the ingredients being mixed in the order named, and kept in a well-stoppered bottle. The alkali which he uses is 10 per cent. liquor ammoniæ, with 10 per cent. bromide of potassium solution. He maintains that when warm brown and sepia tones are desired by the reduction process, daylight must be employed, which is an advantage for Indian workers. The rule, he says, is to fully expose, for, with the restrained developer, even a considerable amount of over-exposure will only result in increasing the

warmth of color. The plate is first soaked in water, in order to avoid surface stains or developer scum marks, and the developer made up as follows is evenly flowed over the plate: Two ounces of the above stock pyro solution are mixed with thirty minims of the bromide solution and twenty minims of the ammonia solution. The dish must be kept rocking all the time, otherwise the half tones, such as the sky, will present a mottled appearance. The image will be long in appearing, but development on no account be accelerated by the addition of more ammonia. If the image does not appear in three minutes, ten minims more of ammonia solution may be added, in which case the color of the slide will not be quite so warm as you desired. The image develops very gradually, and even when full detail is out, it still lacks density (which must be judged by transmitted light); but by continuing development, density increases gradually and the high lights will not fog unless an undue amount of ammonia has been added. Plates which are too warm in tone, or which are brownish and thin from over-exposure, can be changed to purplish tones by toning in weak gold solution, *z.g.*:

Chloride of gold.....	1 gr.
Sulphocyanide of ammon.	15 gr.
Water	4 oz.

is a formula which I have tried with satisfactory results. [Slides shown.]

PRINTING IN OF CLOUDS is sometimes necessary to complete a good slide. If the horizon line is fairly straight, nothing is simpler than to print the clouds only, upon another slide, and bind it film inwards as the



HALF-TONE ON COPPER BY ELLIOTT ILLUS. CO.

FROM AN ARISTO-PLATINO PRINT

A GRACEFUL POSE

cover glass. Care must, however, be taken that the horizon lines correspond on the two slides, and the clouds must be printed from a negative in which they are lit from the opposite side to that from which the picture is lighted, since in using the slide as a cover glass the clouds will be reversed. With a judicious use of the camel-hair brush and reducing solution, there is not much difficulty in accurately fitting the two slides so that the landscape and horizon blend with the sky. [Slides shown.] Other methods of printing clouds into slides will occur to members, and careful workers will find no difficulty which they cannot overcome. Time does not permit of my dwelling on this subject.

The final operation in connection with lantern slide-making is—

MOUNTING AND BINDING.—This is necessary in order to prevent the film getting injured. A clean cover glass is laid on the film of the positive, and the two glasses are bound by strips of gummed paper or starched tape. The majority of slides will require a mask, and indeed it is advisable to insert a mask between the cover glass and the film in all cases, as the latter is thereby protected from the risk of friction. These can be bought or can be cut to any shape, the most common shapes being the circle, the oval, the dome, the square, or the square cushion. It is sometimes desirable to cut off portions of a slide which are defective, and this can be done by a suitable mask; in all cases select the mask which is the best suited to show off the slide to the best advantage. After binding, the front

and back of the slide are cleaned to remove the gum or starch which may have oozed during the operation of binding, the name is written on a label and pasted on the lower edge of the cover glass, or the name may be written upon the mask itself before it is bound in. Two white paper dots are pasted on the two top corners of the cover glass, in order that the lantern operator may readily discover the top and front of the slide; and this completes the process of lantern slide-making.

In closing this demonstration I cannot do better than commend to you some very pointed remarks of Mr. Hodges: "I am not one of those fortunate individuals who can make twelve perfected slides out of a dozen lantern plates from twelve negatives of varying density. I am well content if I can produce six decent slides from a box of lantern slides. The six "wasters," however, come in well for cover glasses, and as glass of the same quality would cost retail from 4d. to 6d. per dozen, no pecuniary loss is incurred."

MOUNTING LARGE PRINTS.

In an article on the mounting of large prints the *British Journal* says: The great difficulty in the manipulation of large prints arises from the considerable expansion of the paper when wet, and the consequent trouble this brings in getting the picture into its proper position on the mount, and goes on to say: We have on more than one occasion advocated the practice, especially with gelatine

prints, of laying the picture down on glass in order to apply the mountant, and, when large prints are in question, this plan becomes more particularly useful. Most such prints require trimming previous to mounting, and, if the operation be performed by the means of a glass shape and a pair of long-bladed scissors, or, a wheel trimmer, the mountant can be applied without removing the print from the trimming shape. The firm surface of the glass enables the mountant to be applied with great smoothness and uniformity, and its rigidity renders the handling of the print practically as easy on a large as on a small scale.

Now, having marked upon the mount by means of light pencil dots the correct position of two of the corners of the print, take the print as it lies on the glass and place the corners in the position marked, and gently lower the whole on to the mount. The print, being perfectly flat and evenly stretched on the glass, must of necessity fall into proper position over its whole surface, and the glass plate only requires gently but firmly rubbing down to bring it into intimate contact with the mount. If the latter be of rough or uneven texture, the contact may not be absolutely perfect over the whole surface; but this is of no consequence at this stage, as, if a fair amount of pressure be given, the picture will be sufficiently secured to the mount to prevent its position being altered, and perfect contact is easily obtained by a further rubbing down after the removal of the glass support.

When the print has been thus got into position, the removal of the

glass is easily effected by slightly bending back the mount sufficiently to permit of the insertion of the blade of a knife, preferably an ivory paper knife, between the glass and the print at one corner; then by working the knife gently along one edge until the whole of that side is separated, the mount, carrying with it the print, is easily stripped from the glass by merely bending it backwards. On no account should the stripping be attempted in the reverse manner, by lifting the glass from the print, or the result will, in all probability, be a failure, and possibly damage to the print itself.

SOME POINTS IN CONNECTION WITH TONING AND FIXING GELATINO-CHLORIDE PRINTS.*

By C. H. BOTHAMLEY.

The object of this paper is to call attention to certain points in connection with toning and fixing, more especially with a view to a better understanding of the changes that take place in what is commonly known as the combined toning and fixing bath. It is sometimes urged that since good results can be obtained by the use of separate and successive toning and fixing baths, the combined bath should be avoided. As a matter of fact, however, there is a somewhat widespread opinion, in which I for one share, that a good combined bath, giving results equally permanent

* Read before the British Photographic Convention.

with those obtained by the use of separate baths, would be a very great advantage. From a commercial point of view there would be much saving in the cost of production owing to the reduction in the number of washings and the labor in general, and from the amateur point of view the saving in time would probably lead to much more printing being done.

The experiments described in this paper, and illustrated by the examples exhibited, are only to be regarded as of a preliminary character, although they lead to some definite conclusions.

One of the oldest of toning processes is that in which the print is immersed in an acidified solution of hypo. Acetic acid was generally used, but a similar result can be obtained by the addition of alum solution. When a gelatino-chloride print is placed in either mixture, it is first fixed, and if withdrawn at this stage and washed and dried, it has the well-known red-brown color of a print fixed in a neutral bath. If, however, it has been allowed to remain in the liquid, it gradually would have acquired a color that cannot be distinguished from the color obtained by gold toning, although, of course, no gold has been deposited. It follows that the so-called "sulphur toning" is subsequent to, and not simultaneous with fixing. Further, no difference was observed between the effect of a hypo solution that had been acidified some time previously, and was very turbid with precipitated sulphur, and a hypo solution that had only just been acidified and in which the precipitation of sulphur was only just beginning.

The addition of a lead salt, usually in the form of acetate or nitrate, to the combined bath is often recommended, mainly on the ground that it exerts an influence on the molecular condition of the deposited gold, and yields prints of a more desirable color than can be obtained if the lead salts are omitted.

If a solution containing twenty parts of hypo and one part of lead acetate per hundred is used, the prints are first fixed and subsequently acquire a purplish color indistinguishable from that obtained with a gold bath, or with acidified hypo. Similar results are obtained with lead nitrate, in place of the acetate. Both solutions are quite neutral in reaction, and do not precipitate sulphur, and hence, although the resulting color of the print is similar to that obtained with acidified hypo, it cannot be ascribed to the sulphur toning, and must be brought about in a different way.

The chief point to be observed is that in acidified hypo or in hypo containing a lead salt, a gelatino-chloride print may acquire a color that cannot be distinguished from the color obtained with gold. Now it is generally admitted that the probable permanence of a silver print is directly proportional to the quantity of gold that has been deposited on the image. It is conceivable that in a combined toning and fixing bath that contained or was supposed to contain gold, and also had been mixed with alum or a lead salt, or both together, the actual toning or color change that took place might be due mainly, if not entirely, to the effect of the alum or

the lead salt in the manner just described, and not to the deposition of gold; in other words, the print would seem to be gold toned, whereas little or no gold was actually present.

Examination shows that with acidified hypo, or hypo mixed with alum, or neutral hypo containing a lead salt, the toned image contained a notable quantity of silver sulphide, or, in presence of the lead salts, possibly lead sulphide. The quantity, however, is not such as to indicate that the whole of the image has been converted into sulphide, nor as to make it permissible to attribute the change of color to "sulphurization." The greater part of the image still consists of the silvered compounds as altered or reduced by light.

It was observed by Just and confirmed by Valenta that the paper itself obstinately retains small quantities of lead from baths containing lead salts. Attention has recently also been drawn to this fact by Mr. Baldock at one of the London societies. The fact has been known for some time, and the attention of chemists was called to it several years ago by Mr. L. T. O'Shea. The specimens exhibited show very clearly that pure paper will take up lead from a one per cent. solution of lead acetate with lead nitrate, and retain it even after prolonged washing. It is also clear that in presence of hypo (twenty per cent.) the quantity of lead retained is much smaller, and that it is still further reduced by a second treatment with hypo solution containing no lead. Even in the latter case some lead is still retained, and the quantity is quite sufficient to

cause discoloration of the paper in course of time.

The general conclusion, therefore, is that the use of lead salts in a combined toning and fixing bath should be avoided because of the danger of lead being retained by the paper in spite of thorough washing, and that the use of lead salts, of alum, or of an acid should be avoided, because any of them will cause a print to acquire a color indistinguishable from that produced by gold, even though no gold at all has been deposited. It is obvious that in this case the probable permanence of the prints is much lower than if they were properly toned with gold, and the observations described throw light upon some previously puzzling cases of the fading of gelatino-chloride prints.

RETOUCHING.

By ANDREW PRINGLE.

We have long held the opinion that extensive retouching is not necessary and almost always obnoxious. When the retouching is carried to the point of altering the "modeling" of the features it is not only a fraud, but a transparent one. We have nothing to do with the professional portraitist's work on his lady customers, or on professional beauties for publication; "every herring must hang by its own head." What we so often see is an imperfectly lighted and probably under-exposed portrait to which a fictitious roundness has been imparted by heavy retouching; the surface-

texture of the skin reminds us of a dermatological disease, and the effect is certainly not either true or artistic. If we have to do with freckles, or any other purely fortuitous blemish, we may of course minimize or remove these, and by retouching we may do this. But judicious exposure will in a great measure help to mend such matters, suitable printing will also help, and skilful arrangement of lighting will do more than anything. Not long ago we had to deal with a lady of highly picturesque appearance, but with an example of strong subcutaneous pigmentation, not exactly freckles; treated in the ordinary way her face was awful to see for spots, but when better lighted, more fully exposed, and printed on rough carbon paper, the results were very satisfactory, not only to us, but to the lady herself. It is to be remembered that the human skin is not an impervious layer like parchment, but porous, and that when a rendering of that skin is given on a somewhat large scale it ought to show its porosity to a certain extent; heavy retouching simply obliterates that truth and gives what may be a very fine, even surface, but cannot represent skin. By suitable lighting, proper focusing and exposure, and by choice of a suitable printing surface, we do away entirely with the necessity for the baneful and painful operation of retouching. Mr. Luboshez, to whom we have already referred, asserts that there is no need for retouching under any circumstances when proper lighting of the sitter is possible, and we are inclined to "go the whole hog" with him.—
The Photo-Beacon.

NOTICE BOARD.

Have you tried the "O.K." improved paper, if not it would be to your advantage to do so.

The sale of Hammer Plates seems to go merrily along. Messrs. Mulholland & Co. make some startling statements regarding these plates and have the facts on tap for disbelievers. They are a good plate, and deserve the success they have attained.

"I never thought there could be such a difference" were the words of a photographer who dropped in on us lately. We had been talking to him a short time before about Walpole Hypo, and he had tried it, hence his remarks. It's needless to say that he will now use no other.

It is a pleasure to examine the cameras of the Rochester Optical Co. They are, so to speak, as fine as silk. Beautifully made and always reliable, one cannot help but admire them even before testing their working qualities. After the examination and testing generally comes the exclamation, "Say! Ain't it a dandy!" So they are.

From Mr. F. J. Harrison, the talented editor of the *International Annual*, we hear that the *Annual* is now receiving the finishing touches at the hands of the printers, and will be out in a few days, better, brighter and handsomer than ever, and of intense interest to all interested in photography. We should advise our readers to secure their copy *early*, so as to make sure of getting one. The sale will undoubtedly be enormous.

Moran's New Bargain List, No. 45, is now ready. Be sure to send for it. See his announcement.

We cannot too strongly advise the use of Packer's Tar Soap in the gallery. After developing, after toning, in fact after every operation in the gallery the use of this antiseptic cleanser will prove beneficial, and often guard against contagion. A great many of our photographers are using it; suppose you try it.

Seed Plates.—Messrs. Sharpe, Eakins & Ferris advise us that they have secured the agency for Canada for Seed plates, and are now placing them on this market at the same price as other leading American plates. This will be good news for the many friends of these honest plates in Canada, and will undoubtedly lead to a decided increase in the consumption of Seed plates.

Ross Lenses are synonymous with Best Lenses. They are undoubtedly one of the best foreign lenses made, and the enormous quantity of them sold annually in the United States and Canada proves that their friends on this side of the water are legion. Appreciating their worth, the United States Government has lately purchased a number of them. We hear that Messrs. Ross & Co. are about to issue an entirely new series of the celebrated Zeiss anastigmats.

We take pleasure in calling the attention of our readers to the announcement of Chas. M. Higgins & Co., which appears in our advertising pages. We speak from experience gained by a long use of their photo mountant when we say that it

is the best thing of its kind on the market. Although it has been often imitated, it has, in our opinion, never been equaled. Its keeping qualities are marvelous, and its pleasing qualities soon appreciated by those giving it a trial.

W. A. Lyon & Co. have one of the most complete stocks of photo materials and accessories in the Dominion. Since taking possession of their new store, business with them has been on the steady increase. To the experience gained by Mr. Lyons, sr., in some thirty years catering to the photographic trade, he being the oldest dealer in Canada, and the energy displayed by his two sons on the road, is chiefly due the large trade enjoyed by this firm. A special department of this house is devoted to the manufacture of mounts of all sizes and designs, at prices that, for the quality of work, are "away down."

Among our special advertisements will be found two addresses of interest to our travelling photographic friends. If you are up town in New York city, in the vicinity of 23rd street, you will find a full stock of everything photographic at Hulbert Bros. as per their announcement, and a warm welcome from the general manager of the photo department.

If down town near Nassau street, Messrs. Hastings & Miller will satisfactorily attend to your photographic wants. They are two very pleasant and energetic young men, and can put you onto some good things (photographically). One of their good specialties is the Hasler Dry Developer.

THE TORONTO CAMERA CLUB.

To the Members of the Toronto Camera Club :

Your Executive Committee have much pleasure in submitting this their seventh annual report.

Since the last annual meeting your club rooms have been enlarged and remodelled, and we believe that you now occupy premises second to very few on the continent.

The increased facilities for slide making and enlargements by day or artificial light should enable you to produce even better work than heretofore, the increased dark room accommodation making the work more comfortable, and giving access to a greater number of workers at the one time. The large entertaining hall should be greatly appreciated on lantern slide nights and for open meetings, etc.

Your funds, as shown by the accompanying statement, are in a good condition, considering the recent necessary expenditure in fitting up the new rooms.

The experience gained by being members of the American Lantern Slide Interchange cannot help but be profitable to all, while the expense has been trifling.

The membership is the largest in the club's history, standing at present as follows: honorary, 4; ordinary, 126; and non-resident, 4; making a total of 134.

Forty new members have been elected during the year, eleven were struck off for non-payment of fees, seven resigned, and one was removed by death, the late W. Hammond, who lost his life in the burning of the

Cibola, and whose untimely end was much regretted. Total net gain is twenty-one members.

Our annual entertainment was not as financially successful as it otherwise would have been had not the elements set up two counter attractions—the Osgoodby fire and a great storm. Better luck this year.

All of which is respectfully submitted.

EDMUND E. KING,

President.

Club Rooms, Oct. 31st, 1895.

Statement of receipts and disbursements for the year ending September 30th, 1895 :

Receipts.

Balance, 1893-4	\$93 48
American Lantern Slide Interchange — Refund of duty	20 00
Exhibition—Entry fees....	17 50
Fees	553 25
Lockers	28 50
"Japan and the Japs"	323 80
Sundries	3 25
	<hr/>
	\$1,039 78

Disbursements.

American Lantern Slide Interchange	\$49 10
Books and binding	6 90
Canadian Lantern Slide Interchange	12 25
Caretaker	19 00
Exhibition	53 38
Euchre parties	26 35
Furniture.....	24 82
"Japan and the Japs"	281 40
Light—Gas and electric ...	40 81
Oxygen gas.....	22 50
Rent.....	208 33
Other expenses as stated ..	125 28
Secretary—Balance '93-'94, \$35.00; Bonus, '94-'95, \$75.00	110 00
Balance on hand	59 66
	<hr/>

\$1,039 78

We hereby certify that we have examined the books, accounts and vouchers of the Toronto Camera Club for the year ending September 30th, 1895, and find the same correct.

F. D. MANCHEE,)
J. E. B. LITTLEJOHN,) *Auditors.*

NOTES FROM THE SECRETARY'S
DESK.

Fixtures for November.

Monday, Nov. 4th—Annual general meeting for the election of officers, presentation of reports, and other important business.

Monday, Nov. 11th—Club night. Open to friends of members. American Lantern Slide Interchange. Set from Albany Camera Club.

Monday, Nov. 18th — (1) Short talk by Mr. Hugh Neilson, on "Photographic Lenses." (2) Lantern Slide competition. Prize for the best slide of a botanical subject from a negative taken during the present year.

Monday, Nov. 25th — Set from American Lantern Slide Interchange.

Announcements.

Since sending out the last notice the club rooms have been installed with incandescent light, which will add materially to our comfort. Members are requested to be particularly careful with the electric light, and specially with the dark room lights and the enlarging lamp. As soon as you have finished, turn the light out at once so that no current will be wasted. If every member will be careful in using the lights, a material saving will be effected.

Members are also requested to assist the committee in maintaining the rooms in a cleanly and orderly

condition. Wash out trays and graduates after using—because there are others. Don't throw paper, plate boxes and other debris in or under the sinks. It may stop up the waste pipe, besides, there is a waste box in the work room. It is a pity not to use it. Do not leave bottles or materials lying loose in the dark rooms, the next time you look for them they may not be there.

The fees for 1895-96 are now due.

ERNEST M. LAKE,
Secretary-Treasurer.

MONTREAL CAMERA CLUB.

The President, officers and committee of the Club held an "At Home" at the club rooms on Tuesday evening, the 29th October, the occasion being the exhibition of photos entered in the special summer competition. The guests were received by Mrs. Stanger and the officers of the club.

After the pictures which were hanging on the wall had been examined, the prize slides were shown on the screen as well as others done by the members.

Refreshments were served in the studio, and a very pleasant evening was spent by all.

A. W. COLE,
Honorary Secretary.

INTENSIFIER FOR EASTMAN'S FILM.—Thoroughly wash and place in saturated solution of bi-chloride of mercury; then wash and place in a bath of

Ammonia..... I oz.
Water..... I quart.

HEADS.

By "TECHNIQUE."



PERHAPS a more correct title would have been "Large Heads," but the shorter one will be more comprehensive, especially if we consider for a moment that the following remarks will treat upon heads taken direct in the camera,

and not by enlargement. There is a motive for so taking heads direct, which is comprised in the fact that they are usually truer to nature than enlargements. Enlargements oftentimes exaggerate most alarmingly such slight distortions as are not noticeable in a small photograph—an ear, or a nose, or some other feature becoming out of proportion in the enlarged photograph. Further, as small heads are usually taken in conjunction with the rest of the body, it follows that there has seldom been that care bestowed upon the head to render its pose and lighting so perfect as would be the case where the head is studied alone. The retouching of all large heads is inevitable, therefore it will be found that the direct negative lends itself with greater facility to the skill of the retoucher than would an enlarged negative.

A direct negative of a large head permits the concentration of not only the skill of the photographer in respect of the pose and lighting, but usually secures the best expression, a most important quality.

It is debatable ground I know, but I incline to the opinion that large heads may not only be somewhat coarse in grain, but need not be absolutely sharp all over. As they are usually viewed at several feet distance—on a wall along with other pictures—it is the effect that must be considered, and minute detail is lost. A slight softening of the actual profile is often more desirable than a hard, sharp outline against the back-ground.

A studio is not at all indispensable; very excellent work can be done in a fairly lighted sitting-room—the chief difficulty being to obtain the use of a room sufficiently long to permit of the use of long-focus lenses, which I hold to be of the greatest necessity to attain success. I have produced some very satisfactory results in an ordinary room, which has three windows and is much longer than broad. Placing the model in the best-lit corner, I stand the camera in that corner near the window which gives me the longest diagonal of the room, some six to seven yards apart, and arranging matters so as not to obstruct the door, I can then leave the camera safe in its corner whilst I pose the model. The room described is a drawing-room. By hoisting the blinds up to the top and just drawing the lace curtains over the three windows I can get a very equal lighting, when the sun is not on that side of the house. The distance I have named of some six or seven yards between camera and model enables me to use very long-focus lenses, up to eighteen inches, which will give a good-sized head at that distance, and allows of going nearer to obtain very large heads.

The use of long-focus lenses becomes absolutely necessary if we seek to obtain uniformity of definition along with absence of distortion. At a given distance and with a given lens, at only a few feet from the model, it will be found difficult and sometimes impossible to obtain anything approaching equality in definition, and the effects of exaggeration of prominent parts will be fatal to success. When attempting to take a large head in a cramped space with a short-focus lens, as fast as we can get one feature in good focus another goes out of focus, and no compromise is possible except to produce a fuzzy negative which is sharp nowhere.

Again, long-focus lenses, at several yards distance from the model, will permit the use of larger apertures, in relation to focal lengths, than are possible with short-focus lenses, which must be stopped to such a degree that the exposure is seriously prolonged; in other words, the short-focus lens at close quarters will not work with a large aperture and give good definition.

If for no other reason, short-focus lenses must be condemned for this purpose because of the inevitable distortion or exaggeration, of which a few trials is sufficient to convince. The slightest movement of the head, or the least alteration in the angle (relative to the axis of the lens), throws everything into confusion. I have noticed that the act of breathing throws part of the head into and out of focus at each respiration.

Before commencing to take large heads direct, several things have to be arranged. Back-grounds will be re-

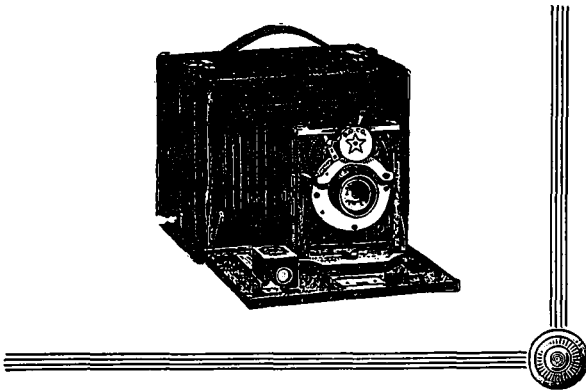
quired, and a number should be made of different tones or colors, to suit varying complexions and types of features, and to obtain any desired effect as regards principal lighting and relief. Sheets of strawboard, of large size, and each with a hole punched in corners to hang up on nails behind the head, will act satisfactorily. They may be coated with distemper of any shade or color from black to white, and probably half a dozen such back-grounds will meet all requirements.

Study the important matter of the principal lighting. Whilst a diffused and equal light will be the first essential, we must also have means of adding to or reducing the dominant light, so as to obtain light and shade, relief, effect, and so on. In a studio furnished with a complete arrangement of blinds this becomes easy, but in a sitting-room many dodges have to be resorted to. If the room has two or three windows, dropping the blind in one may give the balance of light desirable, and enable one to direct the principal rays in such a manner as shall bring into prominence all the points of the features of the model. Models differ so greatly in the class of features that the keen observer of humanity will very soon see that he cannot treat all types alike; he will need to study their points, their style and their individuality in order to do justice to the excellence of his model. I might almost go as far as to say that no one pose and lighting will be equally suitable for all classes. Let us assume that the model is a feminine beauty. The first consideration, no doubt, will be the manner of dressing

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the hair. The present fashions are so elaborate and ornate as to introduce some little difficulty to the photographer, by reason of the extremely complex and florid styles adopted by many ladies. I was riding up to London a few days ago from a small riparian resort—it was Henley—and in the carriage there were several ladies. One inquired of another, "Does Gladys wear her hair high?" This gave me a clue; in fact, a whole homily passed through my mind based upon the inquiry I have mentioned. I gathered, I think correctly, that Gladys, in this particular instance, might be assumed to be most bedecked if her hair was "high"! Now, I am not going to quarrel, but I shall straightway assume that Gladys is my model. It's not the least use of my pointing out to Gladys that her towering hair elevation quite equals the length of her face. That's got nothing to do with me; I am only a photographer, and she isn't going to change the style of arranging her hair to please *me*! Not likely. But when I get Gladys into the posing chair I can deal with her just as I like, and she won't know it. If her superstructure is to my mind out of all reasonable proportions, I shall drop the camera to below the actual horizontal line, and I shall persuade Gladys that a slight inclination of her head (which dwarfs the superstructure) is the most becoming. Of course she takes my word for it, instantly, when I tell her it is most becoming; that's just what she wants and expects. Having gained my point so far, I have next to consider whether the style she adopts is the "fluffy" or

the "compact." I should prefer the latter, because loose hairs give great trouble by reason of their getting out of focus, or blurred, by the least motion of the head. All you can do is to suggest that a little "smoothing down" be permitted, but that will not take place at the expense of the multitudinous curls and other adornments, and you will have to do the best you can and be subordinated to fashion. The color of the model's hair will probably produce some trouble. The vagaries of modern feminine fashions have introduced some remarkable tones, dyes, or "nuances," many of which it would be impossible to describe. They range from tow, or flax, through all the shades of color until they reach a mahogany or bronze effect. Many of these colors are very non-actinic, and frequently come forth as brown or black. You must struggle with this difficulty as you did with the towering superstructure. Isochromatic plates will help you a good deal, especially if you use the yellow screen.

You must expose fully for heads. If you want to obtain the greatest softness, with delicate gradation in the flesh, you must avoid having to push development. Long development or forcing will most certainly produce harshness, excessive density on all prominent parts of features, and too much contrast, and the hair will always be darker in the finished print than it ought to be. It is really best to over-expose and control development; the result may be flat unless you take care, but a flat negative will give the retoucher something to do, and high lights can always be intro-

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duced in retouching. By giving full exposures, such blemishes as freckles are reduced in their assertiveness, but under-exposure will bring them out with unwonted strength. Full exposure, and a developer weak in pyro, are conditions favorable to success.

When posing the head, study the effect of raising or lowering the camera from a central horizontal line, which may be considered the nose. Some types are best suited by bringing the head vertical and making the axis of the lens in a line with the nose. Others, again, are best when the head is slightly inclined towards one side; and you have to find out which will be the best angle for the camera. There are certain formations of heads where it would be undesirable to give great force to high cheek bones, just as it is advisable to diminish the appearance of double or triple chins, if the model is "inclined" to embonpoint.

Study the exact amount of profile necessary to secure the very best effect for the particular head under treatment, especially as regards the showing of any part whatever of the off side of the face. Some heads must be taken in profile only, as high cheek bones or fleshy cheeks mar the effect of an otherwise perfect profile. The deviation of an angle of a quarter of an inch will spoil the effect; I have seen this change happen between focusing and exposure, the model having moved slightly. The head-rest may be used under many circumstances, and in some cases is necessary, but as a rule the pose is more natural when it is absent.

The dimensions of the head on a

given plate should always allow plenty of margin to trim the print to the most effective size; if the head is to be vignettèd—a very desirable method—plenty of room will be required. On a 12 x 10 plate, if the head is seven inches long that will be ample, but regard must also be had to the fact that female profiles frequently come out as broad as long, by reason of the elaborate dressing of the back hair, and you must then be guided by the width rather than by the length of the head.

I have not alluded to the question of printing or toning, preferring to give my allotted space to the production of the negative, upon which too much time cannot be spent if the highest result is to be obtained. I could not do better than urge the necessity of studying the lighting of the model (a dummy would do to practise on), study the effect of direct light on a profile as against side light on the same, and study the altered condition of things when there is very little dominant light, but that used is so diffused and softened and produced chiefly from the surrounding objects. In all cases top light must be avoided. In a room this difficulty is rarely encountered; in a studio it frequently is; and in the open air it always is therefore in attempting heads in the open air, care must be taken to reduce the top light by a screen or roof. I must add that I succeed better in a sitting-room than I ever did in the open air; the light does not vary so much and is more under control.

The taking of large heads will be found a pleasant, interesting and profitable line.—*Photographic Scraps.*