



THE
CANADIAN PHOTOGRAPHIC
JOURNAL.

DEVOTED TO THE INTERESTS OF THE PROFESSIONAL AND AMATEUR PHOTOGRAPHER.

VOL. V.

TORONTO, NOVEMBER, 1896.

No. 11.

THE

Canadian Photographic Journal

PUBLISHERS.....

The Nesbitt Publishing Co., Ltd.,

Rooms 97, 98, 99,
Confederation Life Building.

TORONTO - - - CANADA.

GEORGE W. GILSON, - - EDITOR

Original Communications.



VERY USEFUL.

By A. C. AUSTIN, Albany, N.Y.

I do not think that many of the fraternity are acquainted with the wonderful properties of formaldehyde, also known as formic aldehyde, or formalin. I have not the means at hand to give you the chemical nomenclature nor the derivatives of this comparatively new agent; but I have given it very thorough tests in everyday practice during the past two years, and I can speak truthfully concerning its wonderful hardening powers. I do not know of anything that can be compared with it, and, best of all, its cheapness puts it

within reach. A pound, costing only 75 cents, will make nearly two gallons of solution, which is enough for a good many gross of eight by ten plates. "What do I do with it?" Oh! yes, certainly. I nearly forgot the purpose of this article in expatiating on the merits of the subject. In making gelatine negatives the drying after the washing is the most prolonged part of the operation, which in damp, muggy weather is not only annoying but oftentimes detrimental to the chemical quality of the photographic image. The fact of this slowness is certainly one that would deter the process man from the use of dry plates, if it were not possible to alter the conditions, because it oftentimes happens that a process block is required in a few hours, and formalin is the only thing I know of that would render this feat possible in connection with the dry plate.

Let me describe what I have done, then go try it yourself on any negative you may be in a hurry for, and see if you are not as much pleased as I have been.

After developing, fixing and thoroughly washing the negative, place it in a tray containing one ounce of formalin to sixteen ounces of water, and let it remain for about five minutes, after which remove, and without rinsing blot off the surplus

water with a clean, smooth piece of tissue paper, and put the plate out on the tin roof in the bright sun, or if you haven't the tin roof and sun combination, you can put the plate on top of the hot stove, or dry it over the gas. Now, don't smile! It will not melt or disarrange the film in the least. It will dry perfectly in a very few moments and be ready for the printer.

Worth trying, isn't it?

If the weather is very hot a little formalin can be used in the developer and also in the hypo. I cannot find that it has any chemical action in conjunction with the other ingredients other than to keep the film firm. This does not supplant the necessity of the final bath of "sixteen to one," because the washing of the plate after fixing removes the formalin as well as the hypo. The final five-minute dip and no further washing is essential.

In a late number of Wilson's Photographic Magazine is an extract from a foreign exchange concerning formalin. Its purpose is the stripping of the film. I have never tried it, for I have no use for it, but I believe it to be worth repeating, and therefore quote as follows:

"The negative is first placed in a bath composed of one part of commercial formalin in ten parts of water, for five minutes. It is then rinsed with water (?) and the hardened film is cut through with a sharp knife at about one-tenth of an inch from each edge of the plate. The negative is then placed in a water bath, and the temperature raised to 120° F. The film separates from its support, and may be transferred, reversed, to a collodionized plate." This might be a very useful kind for the colotype man, enabling him to reverse an original negative, that might be possible to obtain otherwise, and thus save the bothersome operation of making a positive and negative for the reversal.

PHOTOGRAPHIC ASSOCIATION OF CANADA.

Address of President W. F. Johnson.

Ladies and Gentlemen,—It is with the most profound appreciation of the great honors that you have conferred on me during the past year, that I bid you welcome to the thirteenth annual convention of the Photographers' Association of Canada. A year ago you selected me to hold the responsible position of President of this Association, and I must say I have seen some anxiety regarding how our Association would compare with other years, knowing there was scarcely any money in the treasury, and not knowing where the needful cash for defraying expenses was coming from. As I have seen for some years a steady falling off in donations from manufacturers, and as our receipts from membership would not begin to defray the expenses that are uncontrollable, I became somewhat anxious for the solvency of the Association. However, our friends have come forward liberally with the needful cash, and my anxiety is dispelled.

I wish to congratulate you on your executive, as they are thorough business men. I also wish to congratulate you upon the harmony and good will that has existed among your executive officers during the past year, for without their generous support any effort of mine for the success of this Association would have been in vain.

It is our intention to make this convention one of sociability. In accordance with this idea it has been the effort of your Executive Committee to make the social part of the programme a very important feature of this gathering. Sociability at the meetings, sociability between the sessions, sociability everywhere, that is the thing for which we should all strive. It is by such social talks that we may unravel the professional

tangles that have troubled us for weeks or years. Let mutual good fellowship and sociability be the motto of this convention. I am a strong advocate of associations, as proof my attendance of twenty in eleven years.

You are aware that last year we still decided to offer prizes for another year, and your Executive have done what they thought best regarding prizes, and as per notice from the Secretary you will see that this Association shall award silver and bronze medals. All exhibitors securing thirty points out of a possible sixty points are to be awarded a silver medal, and all receiving twenty points out of a possible sixty points are to receive a bronze medal.

If the members will make a liberal use of the question box, ideas will be advocated that will be of mutual benefit, and subjects will be opened for discussion. I hope, therefore, that you will not hesitate to take advantage of the opportunity that is offered you of placing your questions in the box, when they will be taken out and read and discussed for the benefit of all. It is difficult to procure good papers from the right men, but if we work together we may obtain results that will be just as practical and satisfactory from the question box.

A word regarding the benefits of associations. There is not a man in the profession who knows too much. Wise as you may be in your own estimation, there are others who can excel you in some branch. One fact may be depended on, the amount of information a man receives depends on himself. If he has an inquiring mind he may learn much, as Uncle Abe Bogardus says, in speaking of a demonstration that took place at the P. A. of A. The subject was the toning of aristo platino, and a photographer who had considerable trouble in that line decided to attend

and see if he could get better results than what he had been getting. After the session I met him on the street, and asked him if he had obtained the information he came to get. "What," said he, "did they demonstrate aristo platino toning?" I told him the paper was thoroughly demonstrated by Jack Decks and Chawly of the big laugh. He said "I am sorry I did not see it. I was invited to attend the asylum, and I went." When it rains fish a man must have his basket ready if he expects to get a mess.

With these few remarks I will close, leaving the business of the convention in your hands.

Ladies and gentlemen, I thank you for your kind attention.

MY IDEAS OF A CONVENTION.

BY G. F. WESTLAKE.

Since it is considered that one volunteer is worth two pressed men, I take this opportunity to present to you my ideas of a convention; and while doing so, I do not want to have you think I am actuated by any other than the good of the photographic fraternity. There are a great many of us who are possessed of brilliant ideas and good ability, but are hiding our light under a bushel (if I may use the old adage). I, like the most of yourselves, have been just as bashful and timid for fear some one would laugh, but while I am not imbued with the idea that I know it all, I am quite willing to contribute in the future my quota of the knowledge I have gained in my experience of twenty-two years under the skylight. If it be of any benefit to anyone and will assist in any way, I will be pleased.

Now to get to my ideas of a photographic convention. In the first

place, I think it a mistake in centralizing your place of meeting. It should be moved around the different cities. Don't have your Executive too far apart, so that they may meet oftener and confer upon matters. Have them good live men from the vicinity of the place of meeting. In making exhibits, let it be done on the American plan—send them on to your Executive to be hung at least two days before meeting. Let your Executive provide suitable uniform background for all exhibitors; all exhibitors to notify the Executive how much space they will require at least thirty days prior to meeting. Appoint an assistant secretary in the place of meeting. In making an exhibit do not confine it entirely to portraits and views, but show some of the host of things to which our art science is applicable. In the matter of prizes, I would say by all means give them, but not in the stereotyped way as at present. Award prizes for papers or essays on different branches. Give them in practical competition for operators; that is, to have operators compete by posing and lighting in some studio; then a competition in developing on the same lines. Printing could be competed for much in the same manner, and so on.

Now, these are somewhat my ideas of a convention. If they are of any utility, I am sure you are entirely welcome, and if not, you got 'em anyhow. Now, one word as to next place of meeting. I would just like to say that London is possessed of more than ordinary advantages for our Convention. We have a public library which Mr. Bellsmith, the celebrated artist, says is an ideal place for an exhibition of art, etc. Then we have Springbank Park, which can be utilized for the social part of it, which, I will take the responsibility of saying, will be attended to, should you favor us with your next meeting. If you will ap-

point your Executive from that vicinity, we will endeavor to make it so interesting in every respect that the drones will have to come out.

THE PHOTOGRAPHIC ASSOCIATION OF CANADA.

The thirteenth annual meeting of the Photographic Association of Canada was held in Victoria Hall, Toronto, on October 13th, 14th and 15th. The first day was devoted to the arranging of exhibits. On the second day (14th), the meeting was called to order by President W. F. Johnson. The minutes of last meeting were read and approved.

The President, being far from well, read his address seated. He expressed a hope that the social element would prevail, and discussed some pertinent matters. (See page 278.)

The Secretary read his financial statement, January 1st, 1895, to January 1st, 1896, showing \$3 or \$4 due him. The statement was referred to Auditors J. F. Jackson and F. A. Mulholland. Judges E. Stanton, P. H. Green and C. F. Waid were appointed.

The afternoon was taken up by demonstrating developing and then by the American Aristo Co. toning platino.

The evening was devoted to chalk talk by Mr. C. Hetherington, showing objectionable points in several large portraits he had picked up for the purpose. Messrs. Sharpe, Eakins & Ferris tendered a visit to the cinematograph, which the Convention accepted.

At Thursday's session a desire was expressed for the full rating to be placed on the exhibits, which was ordered. Mr. G. F. Westlake read a paper on "My Ideas of a Convention." Complaints of the high rate of postage on photos were made, and with one

consent it was deemed unjust. Messrs. Pittaway and Jarvis were appointed a committee to see the Government and endeavor to get photos placed on the book-post rate. The tariff also came in for adverse criticism, and hopes were expressed that photographers would be considered. It was decided to have the next annual meeting in London.

The following officers were elected : President, J. H. Hopkins (St. Thomas); 1st Vice-President, J. T. Baikie (Chatham); 2nd Vice-President, A. S. Green (Berlin); Secretary, G. F. Westlake (London); Treasurer, J. G. Ramsey; Mr. Burke was asked to act as Asst.-Secretary. Mr. E. Poole, when nominated, stated that by his doctor's orders he must decline to act as Secretary. When his health was restored, he hoped he might serve the Association in some way again.

Judges' award :—

Twenty portraits—thirty points and over—W. Still, Park Bros., J. F. Jackson, J. T. Baikie, J. H. Hopkins, E. Poole, C. S. Cochran. Twenty points and under thirty—J. A. C. Morrow, P. F. Pinsonnault, W. Bogart, Kennedy & Bell, and C. Rosevear.

Special—Park Bros., over forty-five points (single portrait).

Views—Highest points were obtained by R. R. Sallows, but he did not qualify according to the Constitution, as neither he nor his assistant were present at the Convention. Next, A. S. Green, to whom the award was given.

Retouching—R. H. Stafford and R. Dunn, equal.

Printing—R. Dunn, Miss Curtis, and R. O. Jarvis.

Sprague & Hathaway Prize (West Somerville, Mass.) was awarded J. H. Hopkins.

The Merchants' Portrait Co., of Toronto, offered a prize to be awarded at this Convention, but was too late to be placed in the list.

Votes of thanks were tendered to the officers, to Mr. C. Hetherington, and to all who contributed to the success of the Convention.

ABOUT LANTERNS.

By R. CHILD BAYLEY.

One does not often now see the old-fashioned sperm or colza lamp, with its argand burner and little tin-plate reservoir of upright pattern for the oil. Probably, most readers of *The Photographic News* have never seen one, and yet, without having done so, it is hard to recognize the enormous strides which the lantern has lately been making. Some few months ago the writer was asked to assist in arranging a small school-room, not a mile from Furnival Street, for a lantern display, and found to his intense surprise that the lantern was one of these old patterns with a colza lamp. Lamp and lantern were covered with grease and soot, and the lamp had been filled with petroleum and provided the compact wick used in a modern lamp. It is needless to say that the first proceeding was to wash the entire instrument in hot water and soda, to replace the petroleum with colza, and the wick with one of loose cotton; but many of our readers will, no doubt, be surprised to learn that by so doing, and by using a small screen of tracing cloth, quite a presentable result in the way of illumination was obtained, although, of course, on a very small scale, and, even then, not bearing comparison with a modern oil lantern.

Lantern bodies are frequently made of iron only, although many patterns have the iron shell enclosed in a mahogany case. For portability the former are to be preferred, and all the very compact lanterns, without, as far as I know, a single exception, have merely an iron body. A good deal of space and weight is saved in this way,

and this economy is, where the lantern has to be taken about from place to place, a desideratum. On the other hand, when it is not intended to shift the lantern frequently—in such cases, for instance, as the lanterns of societies, clubs, institutions, and those used in permanent situations for advertising and similar purposes—it is certainly desirable to have a wooden outer body for the lantern, and the portability and compactness which its absence gives can be sacrificed with advantage. It has always seemed to me that in most modern patterns the size of the body is reduced to its narrowest limits; not that I would suggest that it is made too small, but certainly quite small enough, and for purposes such as have just been mentioned a lantern with a large body is every whit as good and as convenient as one with a small body, while it possesses or should possess, other good points which must necessarily be sacrificed to some extent in the endeavor to reduce size and weight. A large lantern body not only does not get so hot, or should not get so hot as a small one, but is less likely to occasion currents or draughts of cold air which endanger the condensers. It gives facilities for better ventilation, more working room, and is generally more convenient. Anyone who has attempted, say, to try two or three condensers in rapid succession in a compact form of lantern body will appreciate the advantages which a spacious one offers. For this reason I would suggest that those who desire their lanterns to possess the maximum of portability and of lightness and compactness, should select one accordingly, but that where these qualities are not so important, a pattern with a good large body with ample ventilation should be chosen. This is especially the case when it may be designed to adapt the lantern to receive an arc lamp. The length of the carbons

and the size of the mechanism of most arc lamps renders necessary either the cutting away of some part of the lantern, or the use of short carbons which are soon burnt out, unless a large-bodied lantern is employed.

The subject of ventilation is an important one. In the lime-light no air is theoretically required by the jet itself, the oxygen supplied being sufficient to combine with all the hydrogen so that the jet might work in an atmosphere of nitrogen or carbonic acid, although in practice this is not the case. But whether the light itself requires atmospheric air or not it is highly important that an ample and steady current should pass freely upwards through the lantern, if broken condensers and heated woodwork are to be avoided. Biunials and triunials especially should be examined to see that this is so.

As far as oil lamps are concerned, the note of the oil lanternist should be cleanliness. It is the intolerable smell and smoke which can be and usually are obtained from the oil lamp which has helped to bring quite undeserved discredit on an excellent but mismanaged instrument. The oil should be carefully selected. It is too often a pint of "paraffin" got at the nearest shop at the last moment, instead of being, as it should be, the best crystal oil got from a reliable dealer. It should be poured into the reservoir with the aid of a funnel, and not a drop ought to be spilled outside. The wicks should previously have had their top edges trimmed with a very sharp knife and a straight edge, just as a print is trimmed, and should be inserted dry. They will very soon suck up by capillary attraction enough oil to start burning. The chimney should not be put on at first, but should be kept off until the lamp is burning steadily. The lamp must be turned fully up at once and watched carefully. As soon as it be-

gins to smoke it is to be turned down, and this will have to be repeated from time to time until it is seen to be burning steadily. A lamp can only be worked without smell by keeping it from first to last burning at its maximum efficiency, neither smoking on the one hand nor turned down on the other.

Another matter that is overlooked sometimes is that each of the wicks is doing its own proper share of the work. When the lamp has two wicks this is the case when both are equally high, and the position can easily be found by turning up first one and then the other, until a point is reached at which, if either is raised the least bit more, the lamp smokes. They are then both burning at their best, and should be kept doing so as long as the lantern is alight. With three and four wick lamps, however, this should only be the case with the inner wick or wicks, the outer ones being maintained at a little lower level.

But, as we said before, the most important thing in connection with oil lanterns is their cleanliness. They should never be put away with the reservoir partially full of oil and the wicks in position, but as soon as the display is over and the lamp has cooled down the oil should be emptied out, the wicks squeezed up in paper, and when free from oil wrapped up and put away, and the reservoir and lamp washed in hot water with washing soda and dried.

In oil lanterns the position of the lamp is usually adjusted by the maker before the lamp is sent out, leaving the operator to settle only the distance between the light and the condensers. The lamp should slide in grooves which may be able to accommodate, if required, a tray and limelight jet or arc lamp.

The most popular forms of limelight jets are, undoubtedly, the blow-through or safety jet and the mixed jet. The oxy-calcium jet, improperly

so called, since this name is only applied to a jet in which oxygen is blown through an alcohol flame, has its admirers, and is simple in use and very satisfactory, although its lighting power is distinctly inferior to that of the best blow-through jet, and much feebler, of course, than the mixed jet. In safety jets, the better light is obtained if the oxygen tube, instead of having its opening in the middle of and level with that of the hydrogen, is a little within the hydrogen tube, the orifice of the latter in some cases being contracted. This form is not often met with, however. The mixed jet, as its name implies, ensures the thorough mixing of the gases before they are burnt, and this is accomplished by directing the ends of both the hydrogen and oxygen tubes into a chamber in which the gases mix, and from which they emerge by means of a nipple to be burnt. The earliest practical form of mixed jet was designed rather for laboratory use than for limelight purposes, and was known as the Hemmings jet. It is still occasionally used as a means of obtaining very high temperatures, and is the most perfect form of jet theoretically, although its use in the lantern is out of the question. The Hemmings jet consists of a wide tube packed full of long straight pieces of iron wire tightly wedged in. The two ends of the tube receive, the one the gas supply, the other the end of the nozzle at which the gases are burnt. The tube and its packing act simply as a preventive of explosion, which is highly important with the jet, since the gases are mixed in a bag and the mixture itself led to the jet; by this course a more thorough admixture of the gases is obtained than is possible in any other way. The closely-packed wire acts in the same way as the wire gauze in the miner's safety lamp, by cooling the ignited gases so much that they are extinguished, and the

flame is quite unable to pass back and ignite the mixture in the bag. All the same, the use of such a mixture in bulk is so dangerous that the Hemmings jet is out of the question for limelight work, and we have to rely upon jets in which the mixing takes place in a comparatively small mixing chamber—such jets, in fact, as are usually supplied as mixed jets for lantern work.

It is a remarkable fact, but one which is nevertheless beyond dispute, that the gases in a mixed jet which is giving its maximum amount of light are not being supplied in their true combining proportions, or in anything like them.

Substitutes for lime for the lime-light have been frequently suggested, and many of the earths have been tried, but up to the present nothing has taken the place of the simple cylinder of calcined limestone known as a "lime." One of the most successful substitutes has been magnesium oxide mixed up with water into a paste and then dried. Zirconia has also been used, and it has been claimed for this substance that it is more luminous under the oxyhydrogen flame than any other body, but Mr. Lewis Wright, who is probably our greatest authority on the lantern, states that those who made such a claim were probably unacquainted with what a really good light could be got from lime. Great difficulty is experienced in ridding the zirconia of silica, but when this has been done, the substance holds out hopes of being useful. In this connection it is most appropriate to refer to the Welsbach incandescent gaslight and to its use in the lantern. In this form of light, a thin mantle composed of zirconia mostly, is heated in a Bunsen gas flame—that is to say, in the flame of a burning mixture of coal-gas and air—and the mantle, under such circumstances, emits the brilliant light which is nowadays coming into such

general use. For lantern purposes, on a small scale, the Welsbach burner holds out many inducements, being at once simple, economical, clean, and requiring the minimum of attention. For photographic enlarging it has, doubtless, a good future before it, but for anything like lantern work on a large scale, it is too feeble a light, and has, moreover, an unsuitably large area. The mantles are, moreover, very fragile, and require careful handling if the lantern is to be frequently moved. Fittings can be readily obtained to adapt the burner to the ordinary type of lantern, and the cost of these is so little that most lanternists are in a position to determine for themselves how far the Welsbach light may be advantageously employed by them.

With the growth of electric lighting and the supply of current through the mains, the arc lamp is growing rapidly into favor for the best displays. The intensity of the light exceeds that of the most powerful jet, while its color and concentration leave nothing to be desired. All the same, it is well to realize that it is only the continuous or direct current which can be satisfactorily employed in lantern work, the alternating currents so frequently supplied for house-lighting being very inferior. Arc lamps are divided roughly into two classes, hand-fed and automatic. To obtain the electric arc two carbon rods, connected respectively with the two wires supplying the current, must have their ends brought into contact and then separated a little. As the separation takes place, an arc—an area of intensely bright light—is formed between them, which varies in brilliancy as the rods are separated. By drawing them farther and farther asunder, the arc becomes longer and flaring, and at the same time diminishes in intensity, until at last it goes out altogether, and the rods have to be brought into contact again and sepa-

rated once more to restore it. In most lamps for lantern work the separation of the rods is performed by means of hand regulation, and as the ends of the rods burn away, as they do when the arc is burning, the carbons must slowly be fed towards one another. Since this feeding does not require performing more often than a lime requires turning on a jet, it can be done by hand without much trouble. Hand-fed lamps can be constructed so that their liability to derangement is reduced to a minimum, and is much less than that of the simplest automatic lamp, which is necessarily more complicated. Many hand-fed lamps are provided with an automatic arrangement for striking the arc as it is called—that is for bringing the carbons together and separating them to restore the arc which has, from one cause or another, become extinguished. Such a movement may be regarded by some as a convenience, but it introduces a certain amount of mechanism into a lamp which it is desirable to do without if possible.

Mr. R. R. Beard has recently constructed for the Royal Photographic Society an arc lamp in which, at the the writer's suggestion, all arc-striking mechanism is done away with, and the carbons are simply fed towards one another by a coarser adjustment than is usually the case. The lamp works very well, and the rackwork feed answers quite satisfactorily both for making the arc and for maintaining it, while the somewhat coarse nature of the adjustment is all that is wanted for lantern work, arc lamps for the lantern being frequently too fine in this respect. Half-way between the hand-fed and the automatic lamps come those in which one carbon is controlled by hand and the other pushed by a spring into position, such forms in fact as the Davenport. In the automatic lamp the current itself, by means of solenoids or of electro-magnets, is made to con-

trol the feedings of the carbons and to strike the arc. Of these the "Scissors" and the "Brockie Pell" may be taken as types.

Nothing is so likely to mar the regularity and brilliancy of a display with the electric light as the selection of inferior carbons. The carbons are usually fixed in a slanting position, making an angle of about thirty degrees with the vertical. The bottom carbon, i.e., that nearest the condenser, is set a little in front of the other and is invariably the negative carbon. The positive, the upper one, is therefore behind this, and the arc is in consequence still more inclined than the carbons. On burning, the negative carbon keeps a bluntly-pointed shape at the end, the positive carbon maintaining a similarly pointed form except that it has at its extremity a depression or crater. It is from this crater that the most brilliant light is emitted, and the result of the inclination given to the arc is to bring the crater round on to one side of the blunt termination of the positive carbon, so that nearly the whole crater is presented to the condensers. By this means a great gain in light and its concentration is secured. With inferior carbons it is impossible to maintain so regular and even a shape as we have described; the light sputters and flickers, and is much less than would be the case with a well-formed crater; hence the importance of getting the best quality of carbons for lantern work, especially as their cost is but trifling. The switch controlling the current should be at the lantern itself.

Much unnecessary awe is entertained as to the deadly nature of the current employed in an arc lamp. With the direct current as supplied at an E.M.F. of 100 to 110 volts, so far from there being any danger, it is difficult to obtain even an unpleasant shock. Using such a current for arc lamps frequently, handling one

terminal or both indiscriminately at the same time, the writer has never received a shock which he could feel at all. By wetting the fingers and then grasping the terminals the current can be felt, but not much more, and although different people differ as to their sensitiveness to electric shocks, with such a current there is never a risk of a shock of an unpleasant nature. With alternating currents, which, as I have pointed out, are unsuitable for lantern work, this is not the case, and wires bearing such should be treated with respect. To work an arc lamp satisfactorily in a lantern, it is necessary to put much deeper glass in the little windows than is usually the case; the writer uses deep ruby and dark blue together, by which means the arc can be comfortably watched, although the glass is too dark to allow anything else in the lantern to be seen.

[We reprint this in full from the *Photographic News*, because not only is it seasonable but the authority is of the best.—ED.]

A SIMPLE PHOTOGRAPHER.

Granville W. Wright, in the *Photographic Times*, says: After considerable study on the subject of timing light for exposures, the following method is found to be very accurate, especially in view work. Supposing we were preparing to take a landscape at between the hours of 10 and 12 a.m., in July or August, or any hour of the day, or any day of the year, the result would be the same. We get our focus and then proceed to take the picture. If a fast plate (judgment should be used of course to allow the difference between the speed of a fast and slow plate), for example is used and the sun is bright, atmosphere is clear and detail is shown very clearly on the ground glass under hood, we say we will stop down

to f-32. Now adjust the shutter for a time exposure, take the bulb of the shutter in hand, with head under hood, with no light except that which comes through the lens, press the bulb and open shutter, and examine the light at the edge of plate; picking out the darkest part of the plate. Now hold the eye in that position and close the shutter; then press the bulb (the time that judgment teaches you would be right), and see if during that time the eye would be able to catch the detail in the darkest part. If not, try the shutter again, giving a little more time. Do so until you find the time necessary to see the detail in the darkest part at the edge of the plate. Now close shutter, put in the plate, and expose the same length of time that you found necessary to see the detail in the darkest part at the edge of the plate.

The New Haven Camera Club had an outing a week ago, and the writer being with them, had several cameras pointed at the same view. One member of the company has had a great deal of trouble with over and under exposures. To test the above suggestion, we focused on the scene with the camera that had given the party trouble. This same party exposed two plates, one a slow and one a fast plate, following the directions as above stated, and in developing these plates care was taken to see the same detail at the dark part of the plate as was shown under hood in the camera. We can say the result was very satisfactory indeed. The negative was clear and sharp, and details in the shadows were perfect.

Would be pleased to hear from some party who may feel interested enough to try the above. Would suggest to those who are interested, to try the light on the ground glass by setting up camera and stopping down to any desired aperture, then with the bulb of shutter in hand and head under hood, open the shutter

and close quickly, at the same time notice the action of the light upon the ground glass. You will notice that from a quick exposure, the eye, being quicker than the hand, will catch the light, which will be seen with short exposure in a small circle, and the longer the exposure the larger the circle until the edge of plate is reached by the light. A few trials in this line would aid a new beginner or any one who may be troubled with timing.

LANTERN WORK.

With the coming of the long evenings and the commencement of active operations by photographic societies, activity in lantern-slide matters has been renewed. In the making of a lantern slide there is one portion of the operation concerning which little has been written, but which is probably more important than the development, or, indeed, any other of the many details in the making of a perfect slide. The demand for lantern-slide mats has been considerably increased during the past month, and a word or two on the use of these mats may be timely. The average slide-maker purchases a package of ready-cut mats, of one size and shape of opening, or, perhaps, an assorted package, with some half-dozen shapes of regular orthodox patterns. All the slides are matted with one or other of these stock mats.

When a negative is made, it is usually the case that a by no means inconsiderable amount of landscape is included that had better be dispensed with, if it is desired to obtain a result that shall approach the pictorial. This is accomplished, of course, by trimming away the undesired portion. If, in a print, certain portions are considered objectionable, the same applies with equal force to the lantern slide. When a slide is made by copying in the camera, the desired portion

only may, in many cases, be copied. But in slides made by contact, and in all cases where certain portions only of the slide are wanted, the undesired parts must be blocked out by a lantern-slide mat.

In every case, before making a slide, a print should be made and carefully examined. That part of the print that it is desired to include in the picture should be marked off or cut out, and, when the slide is made, this portion should occupy the centre of the lantern-slide plate. Lantern-slide mats are now made from which any desired opening may be cut solely by the aid of a sharp pocket knife, and these are to be recommended for the fact that they permit of easily obtaining a mat of any size and shape. The marked print is used as a guide for the size of the mat, and the lantern slide thus made to conform to the ideas of the operator.—Anthony's Bulletin.

RESIN PAPER PRINTING.

The use of resin as a medium for silver printing is not by any means new, but perhaps our readers are unfamiliar with the method. In the Photographic News working details are given, and, as it gives an image without a glazed surface, there is every reason why those fond of experimenting should work out the process for themselves on the following lines. Resin paper may be prepared in two ways, either as plain resin paper, similar to plain silver paper, or an emulsion paper.

The plain resin paper is prepared as follows: A shellac solution is made by powdering some white shellac, and boiling it with ammonia and water. The proportions are:

White shellac (powd'd).	48 grs.
Ammonia, .880	24 minims.
Water	1 ounce.

The shellac should be mixed with the water, the ammonia added, and the mixture heated until all the resin is dissolved. This shellac solution will keep almost indefinitely. To prepare the salting solution, dissolve 12 grains of arrowroot and 12 grains of common salt in 1 ounce of water and add to it, with constant stirring, 48 minims of the shellac solution, for ordinary smooth-surface papers. For drawing and other rough-surface papers, the quantity of shellac solution should be doubled. The paper is sensitized with the following solution:

Silver nitrate	120 grains.
Citric acid	80 "
Distilled water	2 ounces.

The sheet of paper is pinned down on a clean board, the required quantity of silver solution is poured into the middle of the paper and rapidly distributed by the aid of a brush.

The emulsion resin paper is prepared according to the method of Valenta. The resin solution or soap is mixed with the salted gelatine and precipitated by the addition of an acid, preferably citric acid.

Dissolve :

Ammonium chloride	48 grains.
In distilled water	1 ounce.

and add

Gelatine	20 grains.
--------------------	------------

This should be allowed to soak for two hours, and should then be melted by the aid of gentle heat. The resin soap is then made by dissolving :

Light French resin	20 grains.
Ammonia	20 minims.
In distilled water	½ ounce.

The ammonia and water should be heated, and finely powdered resin added in small quantities, with constant stirring, more ammonia being added if necessary, to complete the dissolving of the resin. This resin

solution is now added to the gelatine solution, with constant shaking, and the total bulk made up to 2 ounces with water. Hydrochloric acid is now added very carefully, drop by drop, until the solution is neutral to litmus paper. Then a saturated solution of citric acid is made and added, a little at a time, to the warm gelatine and resin solution with constant stirring till it turns milky and has a strong acid reaction. This solution soon sets to a jelly, but must be used warm. Sensitize by brushing over it the following solution :

Silver nitrate	120 grains.
Distilled water	2 ounces.

Very rich, warm, black tones may be obtained with this paper.

AMIDOL AS A DEVELOPER.

W. Fenton Jones, in *Photographic Times*, says: Much has been said about new developers and their advantages over the older and better known developing agents, but the general consensus of opinion is that notwithstanding their many good points, the new ones will never entirely supplant the old. Each in its turn has its own characteristics, some giving one kind of colored image and another perhaps the very opposite and the changeability of our natures perhaps fortunately has made us each have our own particular likes and dislikes, so that we may never have absolute uniformity of task.

There was a time when we used nothing else but ferrous oxalate for developing bromide prints; in fact at that time there was no choice. But now what with hydroquinone, then eikonogen, and lastly metol and amidol, public opinions differ vastly in their selection. One cannot help but think, however, that ferrous oxalate with its two bottle solution and clearing bath has "got ter go," for the



MAXINE ELLIOTT.

Photo by
W. M. MORRISON,
Chicago, Ill.

other mentioned developers are each of them cleaner and easier to manipulate. Whether the results are better is a matter of opinion, though the writer would much sooner use amidol for bromide work than any other, for with it there is simplicity, clearness and good color—the much desired velvety black especially when using the platino-bromide paper. When first I used amidol there was some little difficulty in getting the color required, but I happened to come across the following formula (emanating from the Eastman Co.) and found it answers all my expectations :

Amidol 1 ounce.
Sulphite soda . . . 4 ounces.
Distilled water . . 80 “

Use without further dilution. There is only one thing necessary to remember to get good results: don't keep this solution longer than a week, but only make up sufficient for that time. If our friends who are troubled with color in bromide prints will only give this a trial, I think they will feel they have arrived at their goal.

REJUVENATION OF DEFECTIVE CROOKE'S TUBES.

Mr. Ralph McNeill, of New York, says: “A little point which I have found out about focusing Crookes' tubes may be of interest, as I have not seen it in print. In use, the vacuum of the tube runs up, necessitating increasing the power of the coil to get the same results, and, after this increase becomes impracticable, heating the tube is resorted to. This is apt to destroy the tube by cracking it, unless very carefully done, and, even if safely done, it soon loses its power to restore the tube. It occurred to me that the increase of vacuum was due to the absorption of gases by the platinum anode, and, knowing that

the negative pole threw off gas, I reversed the polarity of the tube. After working it in that way for half an hour, the tube was restored to full power, and I have practised this process for the past two months with perfect success and without injury to the tube. After an hour's run with the X-rays I reversed it as above, and it is ready for another hour's run. The coil should be cut down in power when reversed, as there is danger of disintegrating the platinum and depositing it on the glass. I cut out half the battery power. The tube-makers recommend that very high vacuum tubes be sent them to have air admitted and repumped; but my method appears preferable, and, besides, saves their charge of three dollars and the time.”—The British Journal of Photography.

“A HELP FOR PRINTERS.”

Among the thousands of amateurs who do their own printing, many find much trouble in placing the paper in proper position on the negative, and keeping it in that position until they can close the back of the printing frame, especially if the print is smaller than the negative, as making a cabinet from a five-seven or making small prints from some choice part of a negative, and wishing to keep the same lines to an exactness of register, such as printing vignettes, etc. If you have ever seen a printing press working, you have noticed that there are three small gauge pins placed on the platen of the press, to hold the paper in a certain position to receive the impression from the type. Now, if you wish to print photographs and have then all alike, take clean white paper, as near the same thickness of the printing paper as you can get, place your negative in frame, and place the printing paper in the position you want; make a pencil mark

down the left side of the paper and across the bottom, remove the printing paper and paste two small pieces of paper on the longest line, about one-fifth the length from each end, and one piece at centre of short line.

You can then place your negative in the frame, lay it down on the table or stand, place your printing paper in perfect position, place back in frame, and know that your paper is where you want it; it saves the bother of looking through the frame to see where you are at.

Try it; you will be pleased with the result.—Geo. G. Bruce, in *Photo. Times*.

THE SYMPSYCHOGRAPH.

The Latest Development of Thought
Photography.

David Starr Jordan, President of the Stanford University, has just presented himself to the country as a scientific joker. In the current issue of the *Popular Science Monthly* appears a paper on the "Sympsycho-graph," which his name will cause many sober-minded people to read with growing wonder.

Prof. Jordan seriously describes an experiment of the "Astral Camera Club, of Alcade," proving that a thought will leave an impression on a sensitive plate—in other words, that thoughts may be photographed.

The Astral Camera Club was formed, he explained, to investigate modern problems along the purely scientific lines of photography. It made extensive tests of the Roentgen ray, and kept abreast of the latest investigations of the scientists of Europe. "Prof. Rogers," he says, furnished them their latest sensation:

"Prof. Inglis Rogers, of London, found that not only could pictures be produced in darkness by means of invisible force, but that the invisible waves sent out through the ether by

the mind could also affect a sensitive plate. Just as one sensitive mind at a distance receives an image sent out from the psychic retina of another, so could the same image be concentrated and fixed upon a photographic plate. Prof. Rogers, in a matter-of-fact way, looked for a few minutes at a postage stamp, then retired to a dark room and gazed through the lens of the camera at the sensitive plate. The figure of the postage stamp was on his mind, and from his mind it passed out through the sensitive ether to the plate made ready to receive it. The result was a photograph of the stamp—small, and a little blurred, but showing the undoubted features of the gracious Queen, and the words 'one penny.'"

The Astral Camera Club then undertook to carry the discovery to its logical conclusion. They undertook to visualize a mere thought and record it upon the sensitive plate.

Seven of the most enthusiastic members undertook to think of a cat in a dark chamber that served for camera, and to visualize the imaginary conception. Their success was marked, and the picture of a misty group of seven cats was the result. This picture is printed in the current issue of the *Popular Science Monthly*. President Jordan describes the picture as follows:

"As might be expected in a first attempt, there was a lack of co-ordination of the parts. Mr. Gridley, the school-master, had planned his cat on a large scale—a huge cat face, with grey, radiant whiskers, looking directly at the beholder. Most of the others thought of the cat in lateral view or profile. The variant and vagrant individual impressions naturally appeared on the camera before the ether waves were co-ordinated and the reflex influences came back from all to one, regulating and co-ordinating the thought of the cat. Thus these preliminary impressions are

recorded as ghost pictures in various places about the plate before the ultimate composite view was achieved. The delay in this regard has darkened the centre picture, interfering a little with its perfection of definition. This darkening would probably appear in other experiments on account of the long exposure (sixteen minutes) thought necessary for a picture of this kind, in which odic magnetism is made to take the place of light."

This is conclusively abstruse, but the closing sentence of the paper gives the credulous reader a sad awakening :

"Meanwhile the cat of Mr. Thompson, the janitor, who alone could answer the question, lay in the darkness under the warm stove and purred softly."

And this is the truth, the only truth in the article. The photograph was made up by Prof. Sanford (one of President Jordan's faculty) of seven composite views of the college janitor's cat, and for the express purpose of assisting in this hoax upon the innocent public. President Jordan is now in Alaska hiding from the consequences of his deed.—N. Y. World.

TO REMOVE TARNISH FROM DAGUERREOTYPES.

The so-called fading of the daguerreotype image is due to the tarnishing of the silver surface. This is due to the action of atmospheric air and moisture, and can be removed if due care and certain precautions be taken. To do this, first remove the metal plate supporting the picture from its surroundings. At all times be careful only to touch the edges or back of the plate, and do this as little and as gently as possible, and above all things not to touch with any solid bodies whatever—finger, brush, cotton, wood, etc.—the surface bearing the image. Gently blow away any

dust particles. Then, holding the plate by the edges, or by one corner in a pair of pliers, or, better still, in a small hand vice, flood its surface with a mixture of equal parts of pure alcohol and pure water. (N.B.—Avoid methylated spirit.) Repeat this until all appearance of greasiness is removed, then a final rinse in pure water. Next pour on its surface a weak solution of potassium cyanide. (N.B.—A deadly poison, to be used with every care.) A convenient strength is about ten grains per ounce. Repeat this again and again with ample patience until the cyanide solution slowly and evenly dissolves away the tarnish. This being done, again rinse the surface in pure water, and drain from one corner. Having shaken off all adhering drops, now bring the plate over the flame of a spirit lamp and warm it gently, beginning at the top, and gradually drying the plate from top to bottom. Unless this be done, drying marks are liable to occur. When thoroughly dry and cool, the plate is returned to its case with every care to see that it is not rubbed, etc., and so packed up that the atmosphere is excluded as much as possible. As the daguerreotype process is practically extinct, all specimens are likely to increase in interest with time.—London Amateur Photographer.

ALBUMEN PAPER.

Some practical hints for such as still use the old stand-by.

SILVERING.—Fifty grains of silver to one ounce of water. Float one or two minutes, according to temperature. Dry thoroughly, but not too quickly. Fume about thirty minutes. Have your fuming box warm and dry and use strong and fresh liquid ammonia. Dry paper again after fuming.

TONING.—Before washing immerse the prints in a bath of acetic acid and

water; one ounce acetic acid to sixteen ounces water. After having become decidedly red take them out and wash thoroughly.

No. 1. To one pint of distilled warm water add 160 grains of borax, 80 grains of bicarbonate of soda and 40 grains of double fused acetate of soda. Mix eight hours before using.

No. 2. Fifteen grains of the chloride of gold to one and a-half ounces of distilled water.

Mix the whole of No. 1 with one-half ounce of No. 2 half an hour before using. Reserve half of the old bath for the next day, when it should be mixed with an equal quantity of a newly prepared gold bath.

FIXING.—Seven pints of water, one pound of hypo, and one ounce of carbonate of ammonia.

The daily use of fresh hypo, prepared with fresh lukewarm water, will prevent blisters and give clear, brilliant whites. Keep the paper dry and cool.

Before silvering, it should be removed to a slightly moist place, when it will absorb sufficient moisture to be fit for floating without trouble.

High surface papers are apt to blister, especially during warm weather. This can be easily and effectively prevented, however, by the following method given by Mr. C. R. Arnold, viz.:

First have your paper damp before sensitizing, so it will not roll from the bath. The bath must contain one drop of camphor to each sheet of paper, added several hours before using. If the bath turns yellow after ordinary clearing, add chloride of lime until after sunning the yellowness disappears. Print, wash and tone as usual. To one pound of glycerine add a quarter ounce of ammonia, and let it stand a few days before using.

Add one ounce of the above to every fifty ounces of the fixing solution. Afterwards fix fifteen minutes and immerse the prints in a weak solution of salt and water.

ON THE COLOR OF NEGATIVES AS INFLUENCING THE PRINTS FROM THEM.

Those who remember the introduction of the present dry-plate process—or rather the time when it began to oust the wet plate—will also remember the marvellous colors of many of the negatives that were produced, and also the astonishment of old hands—not yet converted—that some of these negatives, certainly miserable looking objects, as compared with a collodion negative, would produce really good prints. Often we have heard the exclamation, “You don’t mean to say you expect to get a decent print from that!”

It is all a case of color of negative. This is a subject that used to be much discussed, but that is little thought of now, modern developers nearly all giving a close approach to black in the image. A communication to a contemporary called our attention to the subject some time ago, and caused us to hark back to the presulphite days, and to develop some plates with several of the old developers that gave a distinct brown or yellow image.

In considering this subject, it is necessary to make a clear distinction. If a negative is colored, there may be one of several things. The image only may be colored, the shadows, if these be without deposit, being clear and colorless; the film may be colored, in which case the clearest shadows will show the tint as well as the image, or the shadows alone may be colored, as in the cases of green and red fog, pests of fifteen years ago that are scarcely known now. Of green and red fog we have nothing to say here. In the early days of gelatine dry plates, using the pyro developer, about the best that was looked for was a colored image plus a colored film. The color of the deposit by transmitted light was a greenish brown, and that of the film

a yellow, or in some cases even a brown.

These old negatives gave magnificent prints, but oh! what a time the printing took! and there was no bromide paper in those days.

Then there came the introduction, by one who signed himself "J. C.," of the acid alum bath—saturated solution of common alum nineteen parts, hydrochloric acid one part. By the use of this the color could be removed from the film, but not from the actual image, though that was made to appear more nearly black, on account of the removal of the yellow color from the film in which the deposit of silver was imbedded. It was noticeable that distinctly softer prints resulted after treatment with the acid alum bath than before, from which fact some argued that the opacity of the actual image was reduced. Probably it was not, but the action was the converse of that in which we print through light yellow glass, if a negative is just a shade too thin. We do not know that any explanation has ever been given of the undoubted fact that a slightly stronger print is got if the light be yellow than if it be white. The effect is not due merely to the longer time taken in printing. The use of a yellow film for printing through, when negatives are just a trifle thin, has been known for a long time. In the old books on the wet process, we find it recommended, in the case of such negatives, to varnish with a yellow varnish.

To return, however, to negatives of the pre-sulphite days. It may be of interest, as a matter of history, to note that sulphite of soda was recommended by the late Mr. Herbert Berkley long before the acid alum bath, but that the suggestion fell flat, and remained so for years. Perhaps this was due to the very imperfect supply of even fairly good sulphite at a moderate price. We remember finding the first sample of sulphite a

complete failure, and concluding that there simply was no effect at all brought about by the use of the substance. It was only when Mr. Berkley showed the result of the use of sulphite at the (now Royal) Photographic Society of Great Britain that the use of it became general.

The negatives with colored image and colored film gave, as we have stated, splendid prints, but they were "too awful" in the matter of time of printing. They became things of the past as soon as a way was found of removing the color from the film.

How about a negative with a colored image and a clear film, however? One that will be got by the use of nearly any of the old developers, such as, for example:

A.

Pyro. 1 ounce.
Citric acid. $\frac{1}{4}$ "
Water up to. . . . 10 ounces.

B.

A ten per cent. solution of crystalline carbonate of soda.

For use one ounce of B and forty minims of A to be taken, the whole to be made up to two ounces with water.

Negatives to be treated with the acid alum bath.

Those who are accustomed only to the most modern developers, always giving black images, will at once note one thing on using such a developer as this, namely, that if development be carried so far as to give a density that appears to them to be right, the prints, by nearly any process, will be very hard. Indeed, when the image is of a distinctly greenish brown color, the negative that will give a good print is a very poor, thin-looking object. The question is, does such a negative give a better print than is got from a negative with a black image of a corresponding density?

We have made some experiments

to try to decide this question lately. We produced some negatives, using the developing formula given above, and looked out some negatives made about eight years ago, at a time when we could not get a supply of sulphite, and printed on the same kinds of paper from thin and from negatives with black images. It is very difficult to be sure of the result of comparisons in such cases, because it is difficult to be at all sure that negatives with different colors of image have "corresponding densities." It appeared to us, however, that at least in the case of silver printing processes—those tried were albumenized paper, plain paper, gelatino-chloride and collodio-chloride—an advantage was derived from the color of the image. Toning seemed to be easier, and the resulting color seemed to be more pleasing in prints from negatives with a colored image than with a black.

At any rate, this is a subject worth more consideration than it receives at the present time.

We conclude with the time-worn advice to remember that the negative is only a means to an end, not in itself an end.—W. K. B. in Photography.

GRANULARITY OF CARBON PRINTING.

Besides the usual method of coating with collodion for avoidance of this trouble, Raimund Rapp, in *Die Photographie*, recommends the use of gelatine and chrome alum. A five per cent. gelatine solution is prepared by first soaking in cold water for an hour and then raising the temperature to 35° or 40° C. Into this is dropped with constant vigorous stirring sufficient of a six per cent. chrome alum solution until it thickens. For half a litre of gelatine solution about thirteen to sixteen cubic centimetres of the chrome alum solution are necessary. Now add drop by drop

sufficient glacial acetic acid until the whole is again brought into a fluid state, and then filter. Before the cleaned glass plates are coated with the solution, they should be given a narrow edging. When this is dry, plates are levelled and coated in a room free from dust. If the fault arises from too rapid drying of the tissue, it may be obviated by placing a few saucers in the drying room. In warm weather it is advisable to cool the water in which the prints are soaked with ice; also be careful to keep the tissue below the surface of the water.—The British Journal of Photography.

RULES FOR PRINTING.

In the *Photographische Mittheilungen*, P. Hanneke criticizes the usual instructions to print until the shadows begin to bronze and the high lights are affected. It would be more correct to say that the prints should be taken from the frame when they are rather darker than required when toned; but one should be careful not to print too slowly, and to tone directly after printing, unless the combined bath is used. The frames also should not be opened in a temperature different from where the printing takes place. If the prints are printed too slowly, or if they are kept any time between printing and toning, it will be difficult to produce bluish tones, especially with albumenized paper. For blue tones on collodio-chloride paper a preliminary bath, to which ammonia is added, is frequently recommended. In this way a fine warm blue, with a trace of purple in it, can be obtained, but the prints must be well washed before toning. Fresh paper should be printed rather deeper than old, and yellowish paper should be left longer in the fixing bath. The normal time for fixing is fifteen minutes.—The British Journal of Photography.

TO MAKE GROUND GLASS.

There is a time in every amateur photographers' photographic life when he feels the need of a bit of good ground glass, and use can be found for a number of pieces in various ways. Nothing is better to print a soft negative under than a bit of ground glass; nothing acts so well as a diffuser of light for enlarging or reducing; and yet how few use it. A spoiled plate stripped of the emulsion can be changed into a good bit of ground glass in about half an hour by the following procedure: Procure from the kitchen tin about a table-spoonful of emery powder, used for cleaning knives, etc.; put this in the centre of a large piece of common glass resting on a flat surface—nothing is better than several thicknesses of newspaper on a table. Then, taking a cabinet print cutting shape with a knob, rub the emery powder hard. This is merely a preliminary, and grinds down the larger pieces which would scratch the piece designed to be ground. Now, collecting the emery, put it aside for a moment and fix the piece of glass to be ground in the place of the other. Put a little emery in the centre, and with the cutting shape pressed steadily, move rapidly with a rotary motion, grinding the surface, adding more emery as it is used up. At first it will be found that the surface will be covered with scratches, and the work looks spoiled, but if the action is continued steadily, less than half an hour will finish a piece far superior to that usually sold in the shops.—Walter Burke in *Photographic News*.

A new development has taken place in photography, and the inventor, Mr. Taber, is in this country ready and willing to show to all who visit him at the Hotel Cecil his method of producing photographs in bas-relief.

In England, photography has, to a large extent developed only in one direction—i.e., towards finish and permanency. Now, Mr. Taber, who hails from San Francisco, gives us a depth. The process can be used effectively for large composition pictures, for groups from life representing statuary, and for portraiture. In this last the result is practically a combination of the photographer and the sculptor. The process, briefly, is as follows: A print is made from the negative in the usual manner, and is mounted on a flat block of wood. The high lights and prominent points of the subject are carved out of the wooden block, following the features of the mounted print. In this way a mould is produced in which the lights and outlines of the picture correspond with the depressions in the wood. The mould is then dressed so that there are no sharp edges. The prints to be embossed are mounted on thick cards, which are thoroughly dampened, and are placed on the mould so as to exactly register with the first print. These are left under heavy pressure until quite dry. The relief thus obtained by pressing the print into the depression of the mould will permanently keep its form. And a bas-relief is produced which looks exactly like a plaster cast, except that it is in photographic tones and all the details are exactly shown.—The *British Journal of Photography*.

PRINTING IN CARBON SINGLE TRANSFER.

This is about the simplest and most effective printing process known, and there is no need for the ordinary amateur to work the double-transfer system. Rarely does it matter whether a landscape is printed wrong-sidedly, and, in a few cases where it is a matter of consequence, strip the film from the negative according to the method

given on page 602, September 18th, 1896, give it a bath of methylated spirit to prevent expansion, then place it reversed on the glass and dry. Print from this, and you will save all waxing solution, temporary supports, etc. With celluloid films you can print from either side, the slight diffusion due to printing through the celluloid being rather agreeable than otherwise—only, don't print thus in sunlight; use shade, or you may get too much blur.—R. W. G. in *The Photographic News*.

DEVELOPER FOR OVER-EXPOSED NEGATIVES.

Many of your readers, no doubt, are finding that they have underestimated the value of the light while holiday-making with the camera, and have returned with a rich crop of over-exposed plates from which, with the hydroquinone developer as usually made up, they fail to get satisfactory negatives. After a thorough trial, I can strongly recommend the following as a "friend in need." In fact, when I mention that I obtained a first-class negative with an exposure of ten seconds (two seconds would be ample) in July, mid-day sun shining on a landscape, with $f-45$, and a rapid plate, no more need be said: Take two ounces of ten per cent. soda sulphite solution, add twenty-four grains hydroquinone, stir till all is dissolved, then add potassium carbonate twelve grains. No bromide is required, and it can be used repeatedly.—A.G.G. in *The Photographic News*.

PAPER NEGATIVES.

Although not much used, says an English writer, negatives on paper are, for all practical purposes, as good as those on glass. They are certainly very handy when all one's stock of dry plates is exhausted, or when the weight

of glass plates has to be considered. Prepared paper is, I believe, sold for making negatives; but it is rather difficult to obtain. An excellent substitute is smooth surface rapid bromide paper. The best way of proceeding to use it is as follows: The bromide paper, having been cut to the same size as the plate used, is placed in the dark slide with an old negative at the back of it. This negative, when the springs of the dark slide press upon it, holds the paper flat and firmly in the slide. For a good open landscape, in summer, with stop $f-32$, an exposure of about ten seconds is required; in winter, with the same stop, sixty to ninety seconds must be given. A good developer is metol. Development is carried far, until the paper is nearly black in appearance. It is then fixed, washed, and the film hardened by an immersion in alum. When the negative is dry, the next thing to do is to oil it, so as to destroy the grain of the paper and to make it print in a reasonable time. The negative is placed film downwards on a piece of blotting-paper, and salad oil is spread all over the back of it. A piece of clean paper is then placed over it, and the whole pressed for two or three minutes with a warm (not hot) flat-iron. By this time, on looking through the negative, the grain will probably have disappeared. If not, the operation is repeated until the grain has quite vanished. When this is so, all superfluous oil is removed and the negative is ready to print. When oiling, the iron must not be very hot, or the oil will be dried completely up. Of course, a piece of clean glass must be placed in the printing-frame, and the negative placed upon that. If properly exposed and developed, quite as much detail is obtainable on bromide paper as on glass plates, and in most cases the difference in the finished print is almost indistinguishable.

Letters to the Editor.



To the Editor:

Orthochromatic Photography.

SIR,—Admitting that there are virtues in orthochromatic plates, then why have they not come into more general use?

The answer, I think, lies in the fact that these virtues do not become apparent unless a yellow screen is used, or the plates are very slow. One can readily see from the above that a maker of orthochromatic plates finds himself in the following dilemma: if he makes his plates slow so that they will retain their orthochromatic properties at a maximum, they will be too slow for general portrait work, and if he increases their speed, then they will partially lose their orthochromatic properties and a yellow screen will be necessary, which will greatly increase the exposure and thus offset what he has gained.

But there is another method which seems to be quite overlooked lately. I refer to the "bath method." By means of a proper bath, such as published by Vogel, Obernetter, Ehrmann and others, orthochromatic properties can be given to any clear, rapid, fine grained plate. The orthochromatic effect is more pronounced with such a plate than with one dyed in the emulsion. Their greatest drawback is that they will not keep, only about eight days, but to the process worker who knows a day ahead what work he has to do this should be no detriment. In the evening he could bathe the number of plates he wishes to use the next day and dry them over night in a dust-free, well-ventilated room. Choose a plate free from fog and with not a comparatively yellow film.

That some makes of double coated plates give very good orthochromatic effect with an increase in exposure is a fact that should receive more attention. Their keeping quality being equal if not superior to that of the

ordinary single-coated plate, is also greatly in their favor. Why they give orthochromatic effects is explained by the theory that those parts of the image formed in the upper coat by the so-called actinic rays become partially reversed by the comparatively long exposure and thus begin to lose in density, while the non-actinic rays have in the meantime had a chance to build up their share of the image and thus overcoming the unequal effects of the light. The under coat prevents halation in the upper. It might be asked, why would not the effect of the actinic rays on the under coat counterbalance the effect produced by the reversal on the upper. The theory that a certain amount of light must necessarily act on the silver salts in the film before they are brought into a state susceptible to the developing agent, and that the total amount of light which reaches the under film in the given time is not sufficient to bring about this condition, I think explains the matter. If the exposure is very much prolonged the under film is affected.

While on this subject, I would like to refer to an article which appeared in the October number of many of the photographic journals. The results obtained by the author of the article in question are, in a number of cases, contrary to the experience of others, and while the experiments may have been made and the article written with the best of intentions and honesty, the fact that three different brands of one maker's plates were used and but one each of the others, also the "Use - Dr. - Pedlar's - Pills, - Brown-Jones-&-Smith's-are-no-good" spirit in which it is written detracts from its merits and creates a feeling of distrust of the results. As the cuts to illustrate the article were furnished to the various journals, one can conclude that the author either had the welfare of photographers very much at heart, or that there was "a greater power behind the throne."

In conclusion, I would advise the worker in his leisure time to try the different methods and plates with thoughtful care, and when he finds something better than he has been using, to adopt it, in spite of somebody's theory or chart. If he has no leisure nowadays, he's a lucky man. "Prove all things, hold fast to that which is good."

MILTON R. PUNNETT.

To the Editor :

SIR,—We enclose you herewith copy of a letter which we received from the American Aristotype Co., Jamestown, N.Y. Kindly publish same in next issue of your journal, and oblige,

Yours truly,

FRED. A. MULHOLLAND & CO.

*Messrs. F. A. Mulholland & Co.,
Toronto, Canada.*

GENTLEMEN:—Replying to your favor of 21st inst., we beg to state that we are not supplying any dealer in Canada with roll goods that could be cut up and sold in competition with ours, nor would we permit of any such condition of affairs. We warn all photographers in Canada to beware of any line of goods represented as ours that are not enclosed in original packages; and, furthermore, we will not be responsible for any paper not sold in our original packages. Very truly yours,

AMERICAN ARISTOTYPE CO.

Jamestown, N.Y., Oct. 22nd, 1896.

Reviews.



The Great Jenny Lind Concert.—Only a few remain who can recall the marvellous enthusiasm which attended Jenny Lind's first appearance in America, in old Castle Garden, 1850. When she arrived from England 50,000 people were at the dock to greet her. That

night 30,000 people serenaded her in front of her hotel. Seats for her concert sold at fabulous prices. On the night of her first American concert over 5,000 people had gathered in the Battery before Castle-Garden by six o'clock, although the concert did not begin until eight. When the doors were opened, the crush was terrible, and within fifteen minutes every available inch of room, other than the reserved seats, was occupied, and 10,000 people were outside unable to get in. Then every rowboat, sailboat and steamer which could be pressed into service was engaged to lay in the water by the old Garden Hall, crowded with people who could only hear the strains of Jenny's voice as it floated through the open windows. The whole scene is now repictured by Hon. A. Oakley Hall, ex-Mayor of New York City, and he gives a wonderfully graphic recital of the event in the November Ladies' Home Journal. The actual scene of Jenny Lind singing her first song to her wonderful audience of thousands is shown in a picture copied by De Thulstrup from a photograph made at the time.

Sepia Tones on Aristo Papers.

The following formula is recommended for obtaining sepia tones on aristotype papers, and especially on solio. Stock solution :

Potassium chloro-platinite	5 gr.
Citric acid (Walpole D.R.)	40 gr.
Sodium chloride (salts) ..	40 gr.
Water	20 oz.

Wash the prints from five to ten minutes, then immerse in the above bath, examining the prints by transmitted light. Tone to a dark brown or chocolate color (not black); then, without previous washing, immerse the prints in the following bath, to stop toning action :

Carbonate of soda (Walpole D.R.)	½ oz.
Water	20 oz.

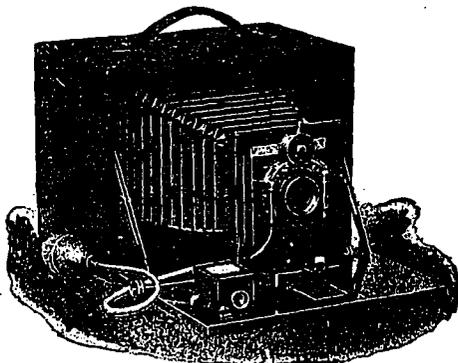
Premo Cameras

FOR

1896.

Are perfect in construction, workman-
ship, finish, and contain more modern
improvements than any other camera.

WE
MAKE
SEVERAL
STYLES



AND
GUARANTEE
THEM
ALL

Send for illustrated catalogue of Premo
and Premier Cameras. If you intend
to take pictures, of course you desire
to take good ones



"PREMOS
PRODUCE
PERFECT
PICTURES."

ROCHESTER OPTICAL CO.

ROCHESTER, N.Y.

BROMIDE PAPER AND OPALS.

By "RAE."

Bromide paper is the easiest means by which a small hand-camera negative can be made to produce a reasonably-sized picture, and the process is very easy if due precautions are taken. It is beyond the means of the ordinary photographer to make the paper himself, owing to the great difficulty of coating the paper evenly without machinery; but as there are so many excellent makes upon the market, there is no need for this trouble. I shall not go into any detail in connection with the setting up of the enlarging apparatus, as given a lens, it is very simple, and I leave it to the ingenuity of the operator. Needless to say, the paper is exposed for a certain time, depending upon the negative and illumination; generally for a bright sky and large stop and medium negative about five minutes is sufficient. The paper is soaked in plain water until limp. This is to prevent unequal development, due to the cockling of the paper directly it is damped. It is then developed by the following solutions:—

No. 1.

Ferrous sulphate..... 1 lb.
Sulphuric acid..... 1 dr.
Water..... 50 ozs.

No. 2.

Potassium oxalate(neutral) 1 lb.
Ammonium bromide..... 20 grs.
Water..... 64 ozs.

These should both be filtered before using. For use, add 1 oz. of No. 1 to 5 ozs. of No. 2, and not vice versa, or else a dense yellow precipitate will be thrown down. When image is fully developed it is placed in the clearing solution without previous washing:—

Sulphuric acid..... ½ oz.
Water..... 60 ozs.

This should be changed once or twice, allowing the prints to remain in about one minute. They are then

thoroughly washed free from acid and fixed for fifteen minutes in

Hypo..... 1 lb.
Water..... 80 ozs.

The prints are then washed for some hours in running water. Bromide paper cannot be developed by pyro-owing to the staining produced, but eikonogen can be used with very good results. The formula recommended is:—

A.

Sulphite of soda..... 1 ½ ozs.
Eikonogen..... 46 grs.
Water (distilled)..... 20 ozs.

B.

Potassium carbonate..... 2 oz.
Water (distilled)..... 20 oz.

For use, equal parts of A and B; if the picture be slow in coming add more of B. With this developer no-clearing solution is needed, but the prints will be improved by soaking in a solution of common alum before fixing in above bath. Amidol can also be used. The formula given is very rapid:—

Amidol..... 60 grs.
Sodium sulphite..... 1 ½ ozs.
Water..... 7 ozs.

For use take 1 part of above and add 3 parts water; if too rapid the addition of a few drops of potassium bromide (1:10) will slow the development. This solution may be used over and over again and no clearing solution is required. All the above remarks apply equally well to papers and opals, they being prepared with the same emulsion. Care must be taken in handling the surface of either papers or opals, the slightest touch making a black mark which may spread over the surface. Some of these marks disappear during fixation. The slightest trace of hypo in the oxalate developer greatly increases the rapidity of development, and may fog the paper chemically. This suggests a method of accelerating devel-

opment; a 1 per cent. solution of hypo added cautiously to the oxalate developer may save a very under-exposed print. Citric, or acetic, acid may be used instead of sulphuric acid for cleaning, but are not quite so good. The prints should be allowed to dry spontaneously, as the application of heat will melt the gelatine, and the result will not be artistic; but for rapid drying they should be passed through a bath of methylated alcohol, which will dry them in about ten minutes.

Clearing Solution.—To remove yellow stains caused by developer.

- Sulphate of iron..... 3 ozs.
- Sulphuric acid..... 1 oz.
- Alum..... 1 oz.
- Water..... 20 ozs.

First wash well to remove all hypo from the negative, then immerse in the above solution until the stain is removed; again wash well and dry.

Developing.

Formula for soft, delicate results :

No. 1.

- Glycin 60 gr.
- Carbonate of potassium
(Walpole D. R.).....230 gr.
- Sulphite of soda crystals
(Walpole)180 gr.
- Water3½ oz.

Warm this slightly.

No. 2.

- Carbonate of potassium
(Walpole D. R.).....150 gr.
- Water3½ oz.

For use, mix one part of No. 1 to two parts of No. 2. Formula for hard development, when great contrast is desired :

- Glycin 75 gr.
- Carbonate of potassium
(Walpole D. R.)385 gr.
- Sulphite of soda (Walpole)385 gr.
- Water3½ oz.

For use mix one ounce, to three ounces of water.

Confederation



Life Association

HEAD OFFICE, TORONTO

YOU will feel better off in every way if you have underneath you the all-sustaining arms of Life Insurance. A Policy not only affords the best security, but actually dispels care, and so by lessening friction increases the length of life. The Unconditional Accumulative Policy issued by the Confederation Life Association provides for extended insurance, paid-up policies and cash surrender values, and is in fact a model contract. For full particulars send to the Head Office, or to any of the Company's Agents.

W. C. MACDONALD,
Actuary.

J. K. MACDONALD,
Managing Director.

Packer's

ONE OF NATURE'S REMEDIES.

THE IDEAL
FOR BATH AND SHAMPOO.

Tar Soap.

Invaluable to Chemists, Dentists, Photographers, Naturalists, and others engaged in laboratory work, and subject to the corrosive effects of acids, etc. For Cyclists, Sportsmen, Sailors, Fishermen, Travellers, Engineers and Surveyors, and all persons exposed to wind and water, sunburn, bites of insects, or irritation of the skin from any cause, Packer's Tar Soap is positively unrivalled. 25 Cents. All Druggists.

THE PACKER MFG. CO., NEW YORK.

FOR SALE OR EXCHANGE

Advertisements in this column, on and after this date, will be charged at the rate of one cent a word. The amount must, in all cases, accompany advertisement.

AN ENGLISH CAMERA, 6 $\frac{1}{2}$ x 8 $\frac{1}{2}$. Six double holders, tripod, Beck lens and diaphragm shutter (time and instantaneous), four printing frames, ten-inch Acme burnisher, leather carrying case, shears, two graduates, etc., etc., as good as new. Price, \$50 cash. Apply to **ELLIOTT ILLUSTRATING CO.**, 31 King St. East, Toronto. 8

BARGAIN.—4 x 5 hand camera, with complete outfit; nearly new; cost \$80, sell for \$45 cash. Particulars on application. Box 26, Mount Forest. 5

ENGLISH 15 x 12 camera and outfit to be sold at half cost; never been used. Write for particulars, Southworth, Fort William, Ont. 7

FOR SALE, one of the oldest established Photo Galleries in the city of Winnipeg, Man. Outfit in good order, fitted from 18 x 22 down. Will sell cheap. Good reason for selling. Address **PHOTOGRAPHER,** Box 368, Winnipeg, Man. 5

FOR SALE or exchange, one 4 x 5 folding Premier camera, R. R. Lens, four double plate holders, tripod, and two developing trays; all only used one summer, good as new; what offers? **H. N. McDONALD,** Mount Forest, Ont. 5

PHOTO business for sale in the town of Barrie; population 7,000; a good business to be done; sold cheap; only one other gallery. **JOHN STEPHENS,** Box 217, Barrie. 7

SITUATIONS WANTED

Advertisements under this head free.

AN experienced young lady is open for engagement as retoucher, or retoucher, printer and toner; capable of taking full charge of reception room. Good references, moderate wages. Address, Box 228, Oshawa, Ont. 10

BY a first-class all around photographer; samples of work and references on application; open for sit at once. **ALF. J. JENNINGS,** Brantford. 7

LADY retoucher wishes situation at once. Best reference. Samples on application. Address, "Retoucher," Forest, Ont. 10

LADY retoucher wishes situation at once. First-class references. Address Box 209, Mitchell, Ont. 5

OPERATOR and printer wants situation, nine years' experience. Reference from last employer. Address **F. H. K.**, 117 East Main Street, Jackson, Mich. 6

SITUATION by young lady to do office work, can also assist in retouching. **MISS N. HASS,** East Toronto, Ont. 11

PHOTOGRAPHER—young man, six year's experience, wants situation. Best of references. Only those wanting a good man need apply. **HY PLATT,** Campbellford, Ont. 11

SITUATION wanted, by an AI retoucher and all round workman; experience in leading studios. **J. L. MUNROE,** Kincardine, Ont. 11

SITUATION by all-round photographer, printing and finishing preferred. Have had full charge of studio. Moderate wages. Good references. **A. E. C.**, 53 Churchill Ave., Toronto. 10

SITUATION wanted by good all-round man of 8 years' experience, able to take full charge of a good gallery. Address, **F. W. KELSEY,** photographer, West Port, Ont. 10

WANTED, situation as all round assistant, or as first-class finisher. Salary low. **A. J. FEAST,** 125 Pearl Street North, Hamilton, Ont. 10

WANTED, situation as printer and general assistant, by a young man with two years' experience; best references as to ability and character furnished on application to **W. J. YOUNG,** Box 136, Chatham, New Brunswick. 10

WANTED, situation by a young man of a year's experience, well up in viewing and printing. Wages moderate; will work as an improver. For further reference apply to Box 4, Brussels, Ont. 10

WANTED, situation by young man of four years' experience, who is capable of taking complete charge of any studio. Best of references. Wages moderate. **ALBERT A. ADAMS,** Stouffville, Ont. 5

SITUATION wanted at once, by lady as retoucher, first-class, willing to assist in reception room or at general work of gallery. Can make a sitting if necessary. Address, "RETOUCHER," Chatham, Ont. 11

WANTED, situation by first-class practical photographer of 18 years' experience; understands all branches of the business; would take charge of studio if required. Best Canadian references. **W. DOWNS,** 447 Vermont Street, Buffalo, N.Y. 5

YOUNG man as second printer, one year with Morrison, Chicago. Address **GEORGE RICHARDSON,** 882 Bonney Ave., Lawndale, Ill. 7

YOUNG man, aged 21, with several years' experience in out-door work, would like situation as improver with landscape photographer or other. **E. REARDON,** 248 Friel Street, Ottawa. 7

SITUATIONS VACANT.

PHOTOGRAPHER requires first-class lady retoucher, situation permanent to the right party, 538 Queen Street, West. 11