

nitrate added to collodio-chloride causes it to turn to a dark-grey colour in a short time, I have collodion made with this salt which has been kept over two years, and is now as white as when new, and has changed less in other respects than common collodion would have done in as many months.

The prints made on this collodion were of a warmer tone than ordinary, being a bright-red instead of blue; they also lost less of intensity in toning; they had also a more brilliant surface-colour, with a large excess of nitrate of silver; and, on the whole, I preferred this collodion to any other.

Fulminating silver, which is a compound of silver and nitrogen, should not be confounded with fulminate of silver, which is a compound with fulminic acid. The former is sometimes formed in small quantities in the manufacture of ammonia-nitrate. I have known the cotton filter which had been used for ammonia-nitrate to explode on being disturbed after getting dry, and set fire to the contents of the waste-box. It is an exceedingly dangerous compound, being apt to explode if handled while wet, and almost certain to explode with fatal violence as soon as dry, resembling somewhat the iodide of nitrogen.

Some years since I was suddenly awakened about midnight by a loud explosion. On rushing into an adjoining apartment I found that a quantity of iodide of nitrogen, which had been reposing quietly for some weeks at the bottom of a small glass jar or bottle covered with water, had suddenly vacated its previous quarters, and taken up a position on the ceiling overhead, where it covered a space of ten or twelve feet, more or less. An incessant series of small but deafening explosions, seeming to testify to both rage and satisfaction, occurred as fast as the porous plaster absorbed the moisture; the room was filled with dense vapours of iodine, so as to render it almost impossible to breathe, or even see. Fortunately, I had a quantity of hyposulphite at hand, which was soon in a basin of water; a towel saturated and applied soon brought the enemy to terms before any more serious consequences ensued. Many other compounds of nitrogen are similarly or even more dangerous—the chloride and the compound with gold, for instance—and had better be avoided. On this account I prepared a different salt, which answered the purpose nearly as well, although collodion containing it would not keep so long as the other. The mode of operation, as nearly as I recollect, was as follows:—

Into about two drachms of the strongest aqua-ammonia I dropped carefully small crystals of nitrate of silver until the liquid became muddy; then a few grains of nitrate of ammonia, or a drop or two of nitric acid was added until it became clear again; nitrate of silver was then dropped in again, until the liquid was saturated at a temperature of about 180° or 200°; about an ounce of alcohol was then added and heated rapidly to the boiling point; during which time the clear solution should pass through various shades of brown and red, until finally nearly black; on cooling, a light flocculent black deposit should subside, leaving the solution colourless, and of sufficient strength to crystallize in a solid mass below 60°.

A few drops of this solution added to ordinary collodio-chloride changes the colour of the print, giving more brilliant surface qualities, and preventing the milky haziness even when the excess of silver is considerable.

Care should be taken not to over-print too much, as the print does not bleach as much in toning as is usual.

Poor collodion may even be restored to tolerably good working qualities by means of this solution.

I have even made prints of the colour of carbon prints, and which required only fixing without toning, by a modification of the above process; but as I do not consider that as of any particular practical value, I shall not describe it at present.

Proceedings of Societies.

FRENCH PHOTOGRAPHIC SOCIETY.

The last Monthly Meeting of the Society was held on the 3rd ult., M. BALARD, President, in the chair.

M. FRANK DE VILLECHOLES submitted, in the name of M. Chambay, samples of unglazed photographic paper suitable for enlargements and also for ordinary work. The material, which

is twice as rapid in its action as albuminized paper, has received no glazing or coating of any description, but owes its particular qualities to the employment in the pulp of a mixture of certain ingredients introduced therein; the surface presented being rough in character, the operations of retouching and colouring are easily performed. It is sensitized with a 15 per cent. solution of nitrate of silver, of which half is first treated with ammonia until the precipitate has completely dissolved, and then added to the remainder, which is slightly acidulated with nitric acid.

M. SOULIER exhibited a large number of carbon prints which had been prepared by what he regarded as a modification, or rather simplification, of Swan's process.* A glass plate was coated with a film of very thin collodion, and as soon as this had set a dilute solution of gelatine was poured over it to form a second layer; on this was spread the sensitive compound upon which the photographic image was subsequently to be formed. When perfectly dry the whole is removed from the glass, and a homogeneous film of considerable rigidity is obtained, which may be manipulated with safety. The exposure takes place from the collodionized face, as in Swan's process, and the operation of washing is then proceeded with in the ordinary manner. No transfer of the print is requisite, but when properly developed it is mounted upon cardboard in the ordinary manner. M. Soulier likewise presented to the Society a negative taken instantaneously upon albumen, representing several steam boats on the Seine in motion.

M. BLANC made a few remarks in reference to the development of dry plates. He stated that it might be laid down as a general principle that the development of the lights of a picture is prejudicial to the development of the half tones, unless the lights have been somewhat over-exposed. It is for this reason that with two exposures of equal duration more detail is obtained in the shadows when the sun is obscured as when working with full sunlight, and that by alkaline development shorter exposure may be given than by the ordinary method; the silver which forms the image being at once decomposed, and unable, therefore, to exercise its affinity for the lights of the picture. For the same reason it is necessary to allow the lights of a picture to become solarized, so that their great affinity for reduced silver may be weakened, and also that a slow development is required for subjects presenting much contrast. With reference to slow development, M. Blanc communicated a method which he believed was not generally known. By placing a dry plate in a very dilute alcoholic solution of pyrogallie acid containing no nitrate of silver or alkali of any kind, an image may be gradually but very effectively developed.† It is very probable that the silver precipitated in this case is due to a trace of nitrate of silver still resident in the plate, which a washing of even the most careful description has failed to remove; decomposition taking place at once, the activity of the lights does not prejudice the development of the half tones, and hence a very gradual result, similar to that obtained by alkaline development. The mode of proceeding is a very slow one, four-and-twenty hours being scarcely sufficient for its completion; but what is lost in rapidity is gained in power, and it is in this direction M. Blanc thinks that photographers desirous of securing rapidity of action in dry plate photography should direct their attention, for the purpose of discovering some new developer. In chemistry the most feeble affinities produce great effects if the necessary time is allowed for their action; and what is the development of a negative but a chemical action? An exposure of the most rapid description suffices to secure a feeble impression, and to create, therefore, a feeble affinity for the reduced silver; by giving more time to the operation of development, varying its details, and employing new materials, the desired result might possibly be attained.

M. DE CONSTANT-DELESSERT forwarded a few copies, for distribution among the members, of his pamphlet on dry plate processes. He recommends therein the employment of the gum and coffee processes.

M. CIVIALE communicated a paper on the Employment of Sulphocyanides (see p. 223.)

M. DAVANNE brought under the attention of the Society

* It will be seen that this process, supposed to be a modification of Mr. Swan's, is simply that which Mr. Swan first described before the Photographic Society of London, and which is fully detailed in this specification. —ED. PHOTO. NEWS.

† This is surely but another mode of applying the plain pyro developer of Mr. Mudd, or rather Mr. Wardley, well-known in this country, and practised for years. —ED. PHOTO. NEWS.