

coated with gelatine dissolved in milk. The lamp is a common single wick paraffine one, with $\frac{3}{4}$ -inch wick, burning good oil with a considerable quantity of camphor dissolved in it. It would certainly be an advantage to use a more powerful lamp, but I wish to show you what can be done with the least outlay. The lamp being placed about six inches behind the object, the condenser is moved about between them, till strong and even illumination is obtained.

The exposure is the only difficulty. It varies with every object according to density and colour, and it also varies with the distance between lens and plate; experience alone can teach this part of the process. I am now going to expose a plate on the tongue of the honey-bee, which requires about eight minutes, and afterwards one on a thin slice of that useful material, cigar-box wood, which will do with about two minutes.

Very rapid plates should not be used, as there is always some difficulty in obtaining density when artificial light is used. About fifteen sensitometer is quite quick enough. A strong and well restrained developer should be used, so as to counteract the tendency to thinness. Last winter I tried soaking the plate in very strong pyro solution, and pouring that off, then flooding the plate with ammonia and bromide. This method was very successful, and the image went easily and rapidly through to the back of the film. My object in using the solutions separately was to save using about ten grains of pyro for every plate, but I noticed that it was a very clean way of developing. Of course prolonged development would probably give density just as well as the strong pyro, but it is tiresome.

The application of photomicrographs is, beyond doubt, the preparation of lantern slides, and the enormous magnification thus obtained displays in a most striking manner the wonders of nature.

Correspondence.

SPOTS ON DEVELOPING.

DEAR SIR,—Your correspondent complains of having transparent spots on his plates on developing. They are, I have no doubt, caused by dust on the plates before exposing, and as the latter intercept the light, would, on being removed in the development, leave marks which on fixing appear transparent. I think he will find a remedy if he will adopt the method I use on my Swiss tours. I may say that out of some hundred of plates I have exposed this season, almost every negative is perfectly free from spots.

The plates should be packed with a thin piece of pure paper between, and not in grooved boxes, which is a great source of dust in travelling; also they should not be placed in the holders till they are required for use. I need hardly say that the latter should be thoroughly dusted, as also the interior of the camera. These precautions I take before commencing work after arriving at my destination. I also avoid, if possible, keeping the plates in the holders during a long journey, as dust is pretty sure to accumulate, particularly if the slides are not well constructed.

I think, if your correspondent will adopt these precautions, he will have no cause to again complain.—I remain, dear sir, yours truly,

W. ENGLAND.

INDIA-RUBBER AGAIN.

SIR,—It has probably been the experience of every photographer that he would like to intensify a negative, but has been unable to do so because parts would be too much done. Take, for example, a picture before me—instantaneous—a group of horses watering; the shore—light pebbles—exactly exposed, the horses wanting intensification. If the whole plate were intensified the shore would be a mass of snow. By covering this shore with the white india-rubber solution, and working the edge carefully when the solution is moist, to avoid hard lines, it is waterproofed, and the other parts can be intensified at will. I have worked this with east windows of churches with good effect, and have succeeded when local intensifi-

cation with brush would have been patchy. The india-rubber, when dry, rubs off without damaging the plate.

W. COTESWORTH.

EASTMAN FILMS.

SIR,—Allow me to recommend the use of the following modification of Eder's ammonium sulphite developer for Eastman paper, or for bromide plates generally:—

No. 1.—Pyrogallie Solution.

Pyrogallie acid	...	...	...	64 grains
Ammonium sulphite	...	...	...	3 drachms
Sulphurous acid	...	...	...	3
Water	...	...	to make up	4 fluid ounces

Mix.

Each drachm contains 2 grains pyro. This keeps indefinitely.

No. 2.—Ammonia Solution.

Bromide of ammonium	...	...	48 grains
Strong ammonia	...	...	2 fluid drachms
Water	...	...	to make 1 fluid ounce

Mix.

Add half a drachm or one drachm of No. 1 to each ounce of water, according as the subject is more or less wanting in contrast, and flow over film, adding No. 2 in portions of about five drops at a time, until sufficient density is gained. As this developer is pretty well restrained, it may be well to have at hand a solution of ammonia 1 to 3, to add a drop or two if under-exposed. This developer gives pure black and white on Eastman films.

J. HODKINSON.

Proceedings of Societies.

LONDON AND PROVINCIAL PHOTOGRAPHIC ASSOCIATION.

A MEETING of this Society was held on Thursday, the 15th inst., W. K. BURTON in the chair.

The fading of a silver print was drawn attention to by the Chairman, in an example which had been for some months in the Tropics. The producer's name and address was printed upon both sides of the mount, and fading was especially marked on and in the neighbourhood of the letter-press.

A. L. HENDERSON said that some years ago he had a large quantity of mounts printed with bronze powder, and he often received some of them back with the photographs as badly faded as that shown by the Chairman. Unfortunately, the bronze spread its damaging influence to other photographs in the same album.

It was observed that only certain kinds of bronze produced fading, but the immunity was thought to be due to some sort of protective varnish being employed in the manufacture.

W. M. AYRES contended that the prints were not carefully produced, and therefore more liable to sulphur bleaching.

The subject of H. S. STARNES'S recent article on lantern slides having been introduced, W. E. DEBENHAM said that the statement that citrates in a chloride emulsion gave cold tones was contrary to his experience and that of many others. If Mr. Starnes obtained cold tones, it might be due to some other condition, as, for instance, the use of ammonia.

H. S. STARNES replied that he had used citric acid and bicarbonate of soda in one case, and obtained cold tones; those plates had been shown; they were of a bluish black, and the image was thin. He then proceeded to read extracts from "Hardwich's Photographic Chemistry," upon Citrate of Silver.

W. E. DEBENHAM then continued at some length in order to show that an alkaline condition of the citrate, or a somewhat high temperature, might have been the cause of the cold tones spoken of, for no other experimenter except Mr. Starnes had found citrates to give other than warm tones. The reason why Hardwich mentioned cold tones was because he was dealing with paper, and that would be distinctly different to gelatine emulsions.

A. COWAN had made positives by Captain Abney's formula of silver citrate and chloride in equal proportions, and there was no doubt about the warm tones by that formula.

The CHAIRMAN said that if it were a fact that silver citrate