

COLLODION FOR BACKING PLATES.

Pyroxylin.....	5 grs.
Methylated spirit.....	1/2 oz.
ether.....	1/2 oz.
Coralline rouge or aurine.....	10 grs.

Allow to stand for three days, shaking occasionally, then decant from any undissolved precipitate and bottle.

VARNISH FOR BACKING PLATES.

Gum sandarac.....	1 1/2 ozs.
Castor oil.....	1 1/2 ozs.
Methylated spirit.....	5 ozs.
Dragon's blood.....	150 grs.
or Aurine.....	75 grs.

Macerate for a week and apply to the back of the plate with a pad.

These need not be removed prior to development.—*Pharmaceutical Journal*.

NOVEL USE FOR OLD FILTERS.—A correspondent of the *Amateur Photographer* suggests the use of a disused filter for keeping a stock solution of sodium hyposulphite ready for use. The crystals are placed in the upper chamber of the filter, which is then filled with water. The solution filters through into the lower compartment gradually, is kept free from dust, and can be drawn off by the tap as required. The same idea will suggest itself to pharmacists as being capable of application in the preparation of other stock solutions, such as certain syrups, mucilages, etc., etc.

A SIMPLE PHOTO-ENGRAVING METHOD.

—W. H. Hyslop gives the following explicit instructions, by following which he claims that any one familiar with dry plate photography may produce half-tone printing blocks. Take any of the slower brands of gelatin films—that is, those coated on celluloid—and expose behind a ruled screen in the usual way, giving, of course, a much shorter exposure than given for wet collodion. Develop the plate with the usual pyro-soda formula sent out by the plate makers, and fix in hypo-soda. Wash thoroughly, and while this is proceeding make up a very hot and saturated solution of chrome alum, and have it in a deep tray. When the washing is completed, plunge the negative into the hot alum solution and keep it there for five or ten minutes, when it will swell where it has not been exposed to the light and remain sunken where it has been exposed. From this solution the plate is taken and washed; it is then placed in a strong solution of chloride of aluminium for ten minutes, then washed again and dried over the stove. When dry it is ready for mounting on the block or for electrotyping. If a small edition of prints is required an electrotpe is unnecessary, because the film is already as hard and as difficult to injure as a copper block. It only remains, therefore, in this case to mount the film on a type-high block with celluloid cement, as used for celluloid electrotypes, and it will stand all the impressions desired. Where a large edition is desired the film may be sent to the electrotypers, and manipulated in the

usual way. There is no doubt, concludes Mr. Hyslop, but that this is the process of the future, being quicker, simpler, and cheaper than the present methods; indeed it seems impossible that cuts can ever be made at a less price than by this method.—*Inland Printer*.

CONDENSATION OF DARK LIGHT.—

According to G. le Bon, dark light (*la lumière noire*) possesses several properties resembling those of electricity. He assumed, therefore, that it should be possible to condense the rays on the surface of metallic plates, which they would then traverse and act upon the photographic plates placed behind in the dark. Experiments have shown that this hypothesis is based on fact. Thin sheets of copper and lead were placed in photographic printing frames, and one face of each exposed to the light of an electric arc for an hour. They were then placed in darkness for two hours, the sheets of metal removed, and their non-exposed faces placed together, with a sensitive plate and the object to be copied between them. After leaving the whole apparatus in darkness for five or six hours, a perfect image of the object appeared on developing the plate, the light condensed upon the outer surface of the copper sheet having apparently traversed the metal and produced the impression on the sensitive film. Care was taken to prevent the effects of heat, contact, or pressure, and it was ascertained that no action took place if the sheets of metal were covered with black paper whilst exposed to light. It is considered that the rays of so-called "dark light" differ entirely from the Röntgen rays and others. The "X" rays pass through black paper and organic bodies, but not through most metals, and they are neither reflected nor refracted. On the other hand, the author's experiments prove that radiations from luminous bodies falling upon metallic surfaces cannot traverse black paper nor most organic substances, but they pass through many metals and, like electricity, are capable of being condensed and can diffuse themselves on the metallic surface. Invisible variations from fluorescent bodies also differ, having been shown by d'Arsonval and Becquerel to pass through metals, and be capable of both refraction and reflection. The radiations given off by certain fishes and animals in the dark somewhat resemble the last-named, but are unable to penetrate metals, especially aluminium.—*Comp. rend. (Pharmaceutical Journal)*.

How to Take a Photograph.

When a man gets hold of a camera for the first time he is very much like a child with a new toy, and nothing will content him till he has tried it, but this is rather a mistake. The first thing to do is to learn all the parts of the camera and their various uses.

The various parts of the camera are

the baseboard, the lens front, the bellows, and the back. The baseboard is that part which bears the bush or screw hole to affix it to the tripod head. Sometimes the baseboard is perforated and a brass ring let in on which the whole camera may be turned, and to which the legs can be affixed; this is a saving of weight sometimes, as the brass weighs less than the wood which it replaces; in other cases, however, it does not decrease the weight at all.

When fixing the camera to the tripod head it should be so arranged that the lens is directly over one of the legs, so that when working the operator can stand between the other two legs, and thus manipulate the camera without any trouble. If the camera is arranged in this way, not the slightest difficulty will be found in adjusting it to any position; for instance, suppose on examining the image on the ground glass you find that the horizon line is too high, by merely drawing the front leg a little towards you the horizon line is lowered, and *vice versa*. Then, again, suppose that the horizon does not appear straight, one of the side legs can be stretched further out or drawn in without any trouble.

The position of the horizon line, as regards the base of the picture, that is, the focusing screen, of course, may be altered also by raising or lowering the lens bearing front, a movement which is fitted to all good-class cameras, but this should not be used unless absolutely necessary, as it is an accepted axiom that the axis of the lens should always be in a line with the centre of the focussing screen. Most cameras are also fitted with what is called a cross front, that is, a sliding movement from right to left. This enables one to slightly alter the point of view; that is, by shifting the cross front to the right we include a little more subject on the right. This movement should also be sparingly used for the same reason as stated above, which is easily explicable from the following diagram: Let A, B, C, D represent our plate; it is obvious that whichever way the plate is turned it will be contained in the inner circle. Now, if we assume the outer circle to be the entire circle of light transmitted by the lens when it is central with centre O of the plate, it is obvious that shifting the lens either right or left must bring the plate nearer the margin of the field where the definition and the illumination are poorer, and, therefore, the lens must be stopped down more.

The back of the camera is generally made what is called reversible, that is to say, it can be turned so that the longer base of the plate can be turned either horizontal or vertical. With the old form of camera it was necessary to unscrew the camera and turn it bodily over. Beside this movement the back should possess a swing, that is, it should be possible to swing the top or bottom in or out. The advantage of this is that when we wish to include a very high building it is neces-