

Toning Bath.—Acetate of soda, 30 grains; carbonate of soda, 10 grains; chloride of gold, 1 grain; distilled water, 4 ounces. This solution will keep for a considerable length of time, and may be used over and over again until the gold is thoroughly exhausted, when more must be added, if again required.

Fixing Bath.—Hypo-sulphate of soda, 1 ounce; distilled water, 10 ounces. This solution may be made up for a fortnight before using, as it is much better for keeping. It must not, however, be used a second time, but a fresh one made for every batch of prints.

MANIPULATION.

Sensitizing.—Filter the silver solution into a shallow dish, then take a piece of albuminized paper, cut to the size, and, holding the two ends, let the centre drop until the albuminized face touches the solution; then lower ends, and leave the paper floating. When it lies flat, and ceases to curl up, it should be removed, and, when perfectly dry, it may be passed on to the next operation.

Printing the Positive.—Take a printing frame and remove the back board; then lay the negative in the rabbits of the frame with the collodion side upwards, and cover the face with a sheet of sensitized paper, replace the back board, turn up to the frame, and expose to the light. When the desired strength of picture is obtained, remove the paper, and proceed with the

Toning Process.—Having removed the prints into a dark corner of the room, wash them in several changes of water to remove the nitrate of silver. They are now ready for the toning bath, therefore immerse them in a porcelain dish, filled with the solution. When the colour of the prints change from a brown to a purple black, remove them to the last operation, the

Fixing Process.—The pictures are immersed in the hypo-sulphate solution for about five minutes, then washed in running water for at least ten minutes. As the fixing solution will greatly reduce the depth of the print, it should be over-printed, to allow of the reduction, else the detail of the picture will be entirely lost.

Mounting Prints.—Starch is the most suitable adhesive substance. It is prepared by mixing a small quantity with sufficient boiling water to work into a stiff paste.

Apply the starch to the back of the picture by means of a brush, then carefully lower the prints on to the card, lay a piece of blotting paper over it, and rub to expel the air bubbles. When nearly dry, place under pressure for a few hours. The picture is now finished.

CONCLUDING REMARKS.

In purchasing apparatus, it is advisable that the tyro should be accompanied by one who is experienced in such matters; any mistakes as to the quantity and quality of the articles required is thus prevented.

The camera may be made either square, oblong, or bellows body, according to taste. The former is considered the most serviceable and the cheapest.

The lens may be had without a sack and pinion if desired. A better focus, however, is obtained by having the rack adjustment; it is also much easier to work, and it is not liable to shift when the cap is removed. Some lenses are provided with diaphragms or stops, but as these are rather expensive, I should advise the young tyro to make his own, which he can easily do by cutting different sized holes in several pieces of stiff cardboard, and then making them to fit the interior of the lens tube. These diaphragms, it must be borne in mind, are only to be used on certain occasions, as, for instance, when the sun is shining, the light of course is much too powerful for the open aperture of a lens. It is, therefore, requisite that it should have a stop inserted in order to retard the rapid action. A diaphragm with an opening of about one inch diameter will be sufficiently large for a quarter-plate lens.

Camera stands are made of various shapes and material; the one most recommended is the plain ash tripod, that being both light and useful, and the most portable.

The sensitizing bath should not measure less than seven by five inches, as that is the proper size for quarter-plates.

The graduated measures should hold at least five and ten ounces respectively.

The funnel may be either six or eight inches in diameter, with a long, narrow neck.

The toning and fixing dishes should be as large as possible, in order to allow the prints plenty of room, and preventing them adhering to each other.

Chemicals may be purchased in small quantities, but it is not advisable to buy collodion in less quantities than five ounces, as it is extremely volatile, and soon loses its power of action.

Nitrate of silver may be bought either in crystals or blocks; the former is preferable, as it can be obtained in smaller quantities than the latter, which is only sold in one ounce boxes.

Hypo-sulphate of soda, protosulphate of iron, and methylated alcohol are exceedingly cheap, as are also most of the other chemicals.

The tyro must be very careful—when using cyanide of potassium—not to allow the least drop to enter any cuts in the flesh, for, being a most deadly poison, it is likely to cause death, if the part is not immediately washed in warm water and the poison thereby removed. As cyanide possesses an odour something like peppermint, it is advisable not to place it within the reach of children.

The silver bath should be filtered at least three times before using; this will ensure the removal of every particle of collodion.

The toning and fixing baths, after being made up, should be allowed to stand for at least four-and-twenty hours before being used. The longer these solutions are kept the better they work.

If the tyro wishes to become a first-class portrait taker, he must study the following rules, and strictly adhere to them:—

RULES.

1. Never allow any one but the sitter to be present when taking a portrait.
2. Always make it a rule to have a place for everything, and everything in its place.
3. Never open the door of the dark room when exciting or developing a plate.
4. The camera and dark slide should be dusted out every morning previous to being used.
5. Never allow any one to meddle with your apparatus, as it is very easily put out of order.
6. Do not handle your sitter more than you can help, but tell him in what position you wish him to stand, and he will pose himself much better than you can.

PHOTOGRAPHIC REQUISITES.

The following is a correct list of all articles required in photographic portraiture: Square mahogany camera, double combination lens, tripod stand, screw stand, screw top, porcelain bath and dipper, two graduated glass measures, set of scales and weights, a glass or porcelain funnel, one deep and two shallow dishes, a tent, printing frame, a packet of quarter-size glass, some filtering paper, a wash-leather, and a linen cloth, negative and positive collodion, crystallized nitrate of silver, protosulphate of iron, glacial acetic acid, methylated alcohol, chloride of gold, hypo-sulphate, carbonate, and acetate of soda, cyanide of potassium, distilled water, &c.

OUR THREE CATS.—We have at the present time, in our possession, a very pretty black-and-white cat, which answers to the name of "Mitten." It is so named because it has four black legs, with little white pads, like so many mittens. It is a small cat for its age, but a cat everybody admires. If you are sitting on a chair, and make a long low whistle, she will run up to you, lick your face, and then bite the tip of your nose, in a playful manner. If you also shake your fingers at her she will bite and scratch your hand in a most savage manner. She is very quick in her movements, and sometimes when she is put in a great temper she will look more like a tiger, and will spit and swear in a most awful manner; among her accomplishments she has attained the art of jumping and will jump a great height if you hold your arms for her. Some little time back she had four kittens; at the same time her mother, who is a beautiful black-and-white cat like her daughter, only she has a black nose and her daughter a white one.

A SLIGHT MISTAKE.—The following anecdote has been associated with the name of a well-known clergyman's helpmeet in Scotland. The minister has been entertaining at dinner a clerical friend from some distance. The evening was unpropitious, and the friend was invited to remain during the night, and the friend accepted the invitation. They walked together for some time in the manse-garden. At dusk, the minister asked the visitor to step into the house, while he would give directions to his man-servant to get his friend's conveyance ready in the morning. As the stranger entered the manse, the minister's wife mistook him for her husband in the twilight; she raised the pulpit-bible, which chanced to be on the lobby table, and bringing the full weight of it across the visitor's shoulders, exclaimed emphatically, "Take that for asking that ugly wretch to stay all night!"