

PHOTOGRAPHIC PORTRAITURE MADE EASY.

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INSTRUCTIONS.

Pictures produced by the agency of light are called photographs, whether taken on glass or paper. These are divided into two classes—negatives and positives; negatives being pictures with the lights and shades of the object reversed, while positives represent the lights and shades as in nature.

Pictures taken on glass are called positives, which are complete in themselves. The negative process is that pursued when the intention is to produce a paper proof. Paper portraits are not obtained like positives, by one operation in the camera, but a negative is taken from which the copies are procured by photographic printing. To take a portrait on glass—either a negative or positive—requires five operations. First, giving the glass plate a collodion coating; second, exciting the glass plate; third, exposure in the camera; fourth, developing the latent image; fifth, fixing the picture.

APPARATUS.

A camera is the first requisite. The most convenient form consists of two portions of boxes, one sliding within the other.

The double-combination lens is used for portraiture. It consists of a set of three glasses, mounted in a brass tube, with a rack and pinion adjustment.

A camera stand is requisite, which should be from four to five feet high. A tripod stand, with a screw to fix the camera with, is the best.

A porcelain bath is required to hold the silver solution for exciting the collodionized plate.

One or two graduated glass measures, to measure the solutions, estimated by fluid measure.

A set of scales and weights for weighing the chemicals.

Two or three porcelain dishes, for holding solutions of silver, toning bath, &c., &c.

A printing frame will be required, after taking a negative picture, to produce the paper copies.

A few packets of different-sized glass, a piece of wash-leather, and a linen cloth, will complete the requisites.

DARK ROOM.

It will be necessary for the success of the second, third, and fourth operations in producing a collodion picture, that they should be performed in a dark room. The best and easiest way will be to obtain a small room or closet with a window, and to cover the window with several sheets of yellow paper, which will exclude the chemical rays. A table or shelf should be fixed under the window, and a pail kept at the side, containing water for washing the pictures.

If a glass room cannot be had, the photographer must arrange an apartment according to his means. In selecting a room, he must bear in mind that it should not only have a good side light, but a sky-light, if possible. In taking a portrait, the sitter should not be opposite the window, but a little behind it—a more even focus is thus secured.

A proper background is of some importance. A white wall will do very well, but something a shade darker will be better.

In focussing the lens have the stand and camera placed seven or eight feet from the sitter. The better to observe the image, a dark cloth is thrown over the camera and head of the operator. The proper attitude of the person sitting for the portrait must be left to the taste of the operator. Allow the sitter time to get seated, and accustomed to the light, before removing the cap off the lens. And now, having concluded these preliminary remarks, we will proceed to take a picture.

POSITIVE PROCESS.

Chemicals.—The most important chemical used in photography is collodion. As it is extremely volatile, it should be kept in a stoppered bottle.

Exciting Bath.—Nitrate of silver, 2 drachms; distilled water, 4 ounces; iodized collodion, 6 minims. Filter before using.

Developing Solution.—Protosulphate of iron, 2 drachms; acetic acid, 2 drachms; methylated alcohol, 2 drachms; water, 10 ounces.

Fixing Solution.—Cyanide of potassium, 2 drachms; water, 6 ounces. This solution will keep for months without losing its strength.

MANIPULATION.

The Collodion Coating.—Having selected a piece of glass, entirely free from blemishes, and quite clean, hold it as level as possible by the left-hand corner, then, in the centre, form a good

pool of collodion. Slant the glass so that the collodion may cover all portions, taking care that it does not touch the hands. Pour the superfluous quantity back into the bottle. The glass is now ready for immersion in the silver bath, which is called

Exciting the Plate.—The manipulation may be conducted in daylight up to this point; but as the immersion of the collodionized plate renders it sensitive to light, recourse must be had to a dark room. Having the silver solution ready, place the prepared glass on the dipper, and immerse in the solution. When the plate has remained in the bath about a minute it should be withdrawn, then immersed for half a minute longer, then drain the glass plate, place it in the dark slide of the camera, and proceed with the third operation—

Exposure in the Camera.—Assuming that the camera has been prepared, and the image properly focussed, remove the ground glass screen, and insert the slide containing the plate. Desire the sitter to keep perfectly still, and look at some dark object; then take the cap off the lens and allow the plate to be exposed for twenty or thirty seconds, then close the shutters of the dark slide, and return to the dark room to

Develop the Picture.—Having excluded all white light from the dark room, remove the glass plate from the slide. Holding it by the left-hand corner, proceed to pour on the developing solution. Begin by pouring on at one edge, inclining the plate so as to enable the liquid to flow uniformly over the surface. The first effect will be the appearance of white lights, then the half tones, and, finally, the darker shades. When this is obtained, the plate must be thoroughly washed. It can then be passed on to the next and last operation—

Fixing the Picture.—Having well washed the picture, the door of the dark room may be opened to observe the action of the fixing agent. Pour this mixture over the plate until the creamy appearance is dissolved. When this is the case, it must be again washed and set on edge to dry. As the picture is now finished, it should be varnished with jet varnish, which should be poured on the plain side of the glass. In mounting the picture, put it into a gilt mat and preserver; and when finished, the lights and shades will be shown to perfection.

NEGATIVE PROCESS.

Chemicals.—Negative collodion differs slightly from positive in the preparation of the iodized solution.

Exciting Bath.—Nitrate of silver, 2 drachms; distilled water, 3½ ounces; iodized collodion, 3 minims.

Developing Solution.—No. 1. Protosulphate of iron, 1 drachm; acetic acid, 2 drachms; methylated alcohol, 2 drachms; water, 4 ounces. No. 2. Pyrogallic acid, 13 grains; citric acid, 15 grains; distilled water, 4 ounces.

Fixing Solution.—Cyanide of potassium, 2 drachms; water, 5 ounces.

MANIPULATION.

The Collodion Coating is applied in the same manner as for positives, and then

Sensitized, which is accomplished by immersion in the nitrate bath. The plate should remain in the bath from two to three minutes. When the collodion surface presents a nice even film, drain off the excess of collodion, and lay the glass plate carefully in the dark slide, taking care not to allow any specks of dust or dirt to get near it. It is then ready for

Exposure.—After exposing the plate for the necessary time, which will be double that required for a positive, proceed to

Develop.—Having removed the dark slides into the dark room, pour the developer, No. 1, evenly over the plate. As the picture will appear suddenly, it must be watched. Continue the action of the iron developer until there is fear of the dark shadows becoming veiled. When the glass plate has been washed, pour into a measure—which must be perfectly clean—sufficient of the developer No. 2 to cover the surface of the plate, to this add ten minims of the silver bath. This mixture must be used immediately by pouring it over the plate. When sufficiently intense, the surface must be again washed. It is now ready to be

Fixed, using the cyanide solution. This is to be poured over the plate in the same manner as the developer, and the surplus rebottled. It should now be thoroughly washed to remove all traces of chemicals, which, if allowed to remain, would eventually spoil the picture. The negative will now require to be

Varnished.—The most convenient varnish for a tyro to use is amber or crystal varnish; it is simply poured on the plate, and then drained off at the lower end.

PRINTING PROCESS.

Chemicals.—Exciting bath: nitrate of silver, 120 grains; distilled water, 2 ounces.