

CRYSTOLEUM, OR CHROMO-
PHOTOGRAPHY.

ANY of our readers are anxious for further intelligence about this delightful art; many are perplexed about their failure to produce a perfect picture, and others undecided between the various methods, so that it is as well that the article in *Silver Sails* should be supplemented by some further notice of the subject.

First, as to the name and origin of the work. The uninitiated hearing of the American or German chromo-photography, or photo-chromography, think that some entirely new art has been invented, when in reality the names are only revivals of the old appellation. The work for many years before it was known in England was taught under the name of "enamelling" in the schools of France and Germany, as part of a girl's education (just as fancy needlework was taught). It was known before photography, and was used to colour engravings, which were secured to pieces of picture glass, rendered transparent by a medium, and painted at the back with oil colours. The glass used was slightly convex, but all the colouring was placed upon one glass. This method has been lately revived, and will be again mentioned further on. When photography produced pictures upon paper, the process was found to look more effective upon these pictures than upon engravings, and the enamelled engravings disappeared. From the Continent, photo-chromography found its way to America, and, gaining favour there, was brought to England in 1881, and introduced by Mr. Barnard, of Oxford-street, with the alteration of double convex glasses, and a wax medium that required boiling. Under the name of *crystoleum* the Crystoleum Company brought the art prominently before the public, by public exhibitions and the giving of prizes for the best works. They in their process retained the double glasses, but went back to the original liquid medium, although they kept the wax medium in stock, and used it. Mr. Werner, of Leipsic, introduced his system of chromo-photography into England later on; but this, except in the name, is identical with the Crystoleum Company's.

The last alteration in *crystoleum* painting is the return to the first method of all, that of using only one glass. This is found to be much less expensive when large pictures are painted, and also easier to execute when the subjects consist of many groups of figures, it requiring very great nicety to fix together the two glasses and to paint so that no edge of colour in any part of the second glass overlaps the outline on the first. The drawback to using the one glass is, that unless the painter goes to great expense in buying a very large tin bath, she cannot use the wax medium for her process, and must use the liquid mediums, and although these latter give the picture as much transparency as can be required, they never produce the ivory-like softness that can be brought out by the wax medium.

Notwithstanding the various mediums used in the preparation of the picture, the object of each invention is the same, and is that of colouring a photograph so that it shall lose its natural characteristics and appear like a hand-painting upon ivory. But this picture, soft and beautiful as it is when well executed, is not always successful; spots appear upon the surface, wrinkles make the detection of the photograph quite easy, the colouring is sometimes feeble, untrue to nature, and hard.

An almost mechanical art like *crystoleum* would seem capable of producing good results, just as a machine will turn out a thousand articles exactly alike, and many amateurs

eagerly inquire as to the reason of and the remedy for their failures, and lay the blame upon their materials. In one respect they are right, that is in the photograph; but in all other points their success or failure lies in their own hands. No employment that obliges the use of a variety of materials will give out exactly the same kind of work whoever does it; much depends upon the worker's patience, exactness, eye for colour and arrangement, and general neatness and nattiness. In *crystoleum*, as in all other employments, if it is worth doing at all, it is worth doing well, and no half measures and divided attention will produce good results, and we thoroughly believe that most of the failures arise from slackness and general scrambling over details.

Let us now pass in review the various stages of the process, and point out where failure in each section may lead to a bad result. The photograph is the first consideration. The subject is a matter for the worker's own taste to decide, but the photograph should be a good impression, with its half tones well-defined and soft; its lights not too crude or its darks too black. Shining lines and specks upon it, and bubbles and froth-like markings, are all defects, and indicate that the chemicals have not been properly mixed. Photographs taken abroad, by reason of the greater clearness of the atmosphere, are generally better suited for *crystoleum* painting than English productions, and photos taken direct from a picture softer than those obtained from engravings; while, as to subjects, the varied collections of the Dresden, Munich, French, and Italian galleries stand unrivalled. Select a picture that is well-defined, not too sketchy, and that has some kind of background—the soft lights and shadows thrown by the photographic chemicals, even if accompanied by any definite landscape or distance, being preferable to a background painted entirely at the back, the oil colours looking too crude unless seen through a veil, and the surface of an unpainted background too white and opaque if left without a colouring.

The photo selected, see that it has not too glossy a surface, and that no preparation has been laid over it; then, if it is on a cardboard or other mount, immerse it in cold water until it floats off of itself. Any attempt to hasten this detachment may cause the photo to crack or break, and render it useless; the photo must be perfectly uninjured, as, if there is the slightest weakness in it, the medium will soak through such places, and produce the dreaded spots upon the glass, and it should be handled as little as possible. Dry the photo with blotting paper, cut it a very little smaller than the glass, and paste it on the glass while it is damp, but not wet. See that the glass is perfectly clean and fresh polished; it is better washed in a little ammonia and rubbed with chamois leather, than cleaned in any other way.

Directions have already been given to lay the paste on both photo and glass, to put the photo on the glass evenly, and to press out the adhesive paste with the squeeze, or with the thumb, working from the centre to the edge. There is nothing new to add to these, except that very few people take the trouble to squeeze out enough of the paste; they either work so slowly that it dries before it can be expelled, or they leave it as opaque in nooks and corners. A piece of thin parchment between the squeeze and the picture is a better surface to work on than the usual silver paper. The fingers must be kept clean, dry, and free from paste, and should be sponged now and again. The paste must never get on the back of the picture, and if the latter gets dry before all the paste is removed, damp it slightly over and over again. Continue the pressing out of the paste until no spots or opaque lines are observable on the

right side of the glass. It should be left for twelve hours to dry thoroughly.

The photo is now ready to be rendered transparent by one or other of the mediums. From experience both of our own and of professionals we recommend the wax medium; it is the most durable, not likely to spot if the paste has been properly taken out, and is in every way satisfactory. But there is no doubt it is more troublesome to use than the liquid mediums, more expensive in apparatus, and when large pictures are done requires a very large bath. The wax is melted in a tin lid placed over a tin bath filled with hot water, while a spirit lamp is lighted and kept burning under the bath. Liquefy the wax before dropping the photo wrong side upwards into it. Keep it warm, but not boiling. If the wax boils it turns yellow, and the *water in the bath* boils away, and may produce an explosion. If, on the other hand, the wax cools, films and ridges form on the photograph. An even warmth only is required; but to keep the temperature right it is necessary to watch the wax the whole time, to remove the spirit lamp when symptoms of overheating appear, and to put it back if any white look comes over the wax. Retain the photograph in the wax from twenty to thirty minutes; then take it out with a pair of pincers, and wipe it on the right side, first with a silk rag, letting the wax drain off the back; wipe that also round its edges, as the wax will thicken there, and requires removing. The time of keeping the photo in the bath varies, twenty minutes being enough for some, and two hours being requisite for others. The picture should show quite clearly through the liquid for about five minutes before it is taken out. If spots are seen, take the photo out, wipe all the wax off the picture, and press every spot with the fingers until it is removed; then put the picture again into the bath. The wax medium can be used any number of times if it is kept free from impurities. After each melting pour it while liquid through a piece of fine muslin and into a basin filled with warm water (not hot); dry it, and keep it in a box until again required.

When a liquid medium is used, the following will be found as good as any:—Take half an ounce of balsam of fir and the same quantity of castor oil, and mix well together, and put them in a soup plate; lay the photo on the glass in the plate, the mixture thoroughly covering it, and leave in the plate for eight or ten hours, putting it in the direct rays of the sun, if possible, all the time. Do not remove the photo until it is transparent, however long it may take to become so, and if spots appear take it out, well rub it over with the finger until they are gone, and then put it back. When it has cleared, wipe the glass with a silk rag, and then wipe the back with a linen rag dipped in pure castor oil.

The painting of the picture should be commenced as soon as the surface is no longer wet. Use fine brushes, and let one colour dry on the glass before laying another over it, particularly about the eyes, eyebrows, and features. Soften hair, lips, and flesh tints by stippling with a dry brush over them, and paint without using turpentine or siccatif as much as possible. If all the painting is done upon the one glass, be very careful about the tints drying before others are laid on, except when it is desired that they should blend. Touch in jewellery very lightly, stipple in all high lights upon dresses, &c., and let no marks of the brush show as streaks in the front of the picture. Use clear and rather strong colouring if the wax medium has been employed; but as liquid mediums leave the photographs more transparent and less ivory in texture, use softer shades and colours. The painting has been already described, and need not be recapitulated.

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