

Crystal Varnish (for transparencies).

Gum Dammar..... 50 g.
Benzole..... 1000 c.c.

This can be used cold. It is not so resistant as those given above.

TONING BATHS.—For the old albumenized paper it is usual to employ neutral or alkaline baths, and acetate, phosphate, tungstate, or borate of soda are generally used. A typical formula is:

Gold chloride..... 0.4 g.
Sodium acetate..... 16 g.
Distilled water..... to 1000 c.c.

GELATINO CHLORIDE OR P.O.P. TONING BATHS.—The best formula is the following; it is suitable for all kinds of papers, though with some it yields finer tones than others:

Gold chloride..... 1 g.
Potassium sulphocyanide..... 2 g.
Distilled water..... to 100 c.c.

Dissolve and heat to the boiling point for 5 minutes, and add distilled water to make 200 c.c. For use mix 1 part of this with 15 parts of water.

COMBINED TONING AND FIXING BATHS.—Amateurs will have these, but their use should be discouraged as much as possible, but the following is a simple formula:

No. 1.

Lead nitrate..... 10 g.
Hypo..... 200 g.
Distilled water..... to 1000 c.c.

This solution must be absolutely free from acid.

No. 2.

Chloride of gold..... 10 g.
Distilled water..... to 1000 c.c.

Just before use mix 5 parts of No. 2 with 1000 parts of No. 1. The prints must be bathed in a 1 per cent. solution of bicarbonate of soda, well washed, and then immersed in the toning bath.

A COMBINED TONING BATH WITHOUT LEAD.

Hypo..... 240 g.
Ammonium sulphocyanide..... 48 g.
Sodium acetate (fused)..... 48 g.
Distilled water..... to 1000 c.c.

To this just before use add 1 gramme of neutral chloride of gold.

PLATINUM TONING BATHS.—The tones obtained on gelatino and collodio chloride papers with platinum are much in favor at the present time. The tones tend from warm sepia to brownish-black. The most satisfactory is—

Potassium chloroplatinite..... 2 g.
Dilute phosphoric acid..... 120 g.
Distilled water..... to 1000 c.c.

This bath may be made up in concentrated form, the total bulk being made up to 200 c.c.

For black tones the procedure is somewhat more complicated, but so many amateurs want black tones on these papers that a set of baths that would give these ought to sell well.

No. 1.—A.

Sodium acetate..... 10 g.
Borax..... 8 g.
Distilled water..... to 100 c.c.

No. 1.—B.

Gold chloride..... 1 g.
Distilled water..... to 10 c.c.
For use mix 10 c.c. of A and 0.2 c.c. of B, and water to 100 c.c.

No. 2

Acid phosph. dil..... 25 c.c.
Distilled water..... to 100 c.c.
Potassium chloroplatinite..... 2 g.
For use mix 1 part with 9 parts of water.

No. 3.

Ammonium sulphocyanide..... 100 g.
Chloride of gold (neutral)..... 2 g.
Distilled water..... to 1000 c.c.

Directions. Print rather deeply and wash the prints in two changes of water for fifteen minutes. Immerse the washed prints in the gold bath No. 1 till they assume a brown tone, and then rinse in water and transfer to the platinum bath No. 2, in which they should be left till they assume a violet tone. Wash for ten minutes, and transfer to a 10 per cent. solution of hypo., in which they should be left for ten minutes, then well washed in four or five changes of water for twenty minutes, and, if the tone is satisfactory (and it will be brownish), they may be mounted. If black, blue-black, or grey tones are required, wash the prints for five minutes only after fixing, and transfer to No. 3 solution, and in this they may be left till the desired tone is attained.

DEVELOPER FOR P. O. P.—It is not generally known that gelatino or collodio-chloride paper can be developed, and in the winter time or in summer, when a large number of prints have to be obtained. This is a great advantage. The paper should only be faintly printed, just sufficient to show all the details, and then developed with the following:

No. 1.

Hydroquinone..... 10 g.
Alcohol..... 100 g.

No. 2.

Sodium sulphite..... 100 g.
Citric acid..... 5 g.
Distilled water..... to 500 c.c.

For use mix 50 parts of No. 1, 50 parts of No. 2, and 1000 parts of water. Development will be complete in from 10 to 15 minutes, and the prints should be transferred to a 5 per cent. solution of salt, well washed, and then washed in the combined toning and fixing bath.

MOUNTANTS.—The following is a satisfactory mountant for all kinds of prints:

White dextrin..... 75 g.
Album (powdered)..... 4 g.
White sugar..... 15 g.
Distilled water..... 120 c.c.

Dissolve by heat, and when cool add:
Alcohol sol. thymol (10 percent.) 6 c.c.

Liquid Mountant.

Soft gelatin..... 40 g.
Distilled water..... 120 c.c.
Allow to soak for twenty-four hours and add:
Chloral hydrate..... 20 g.

Heat on a water bath till liquid or for about an hour, and then neutralize with a few drops of solution of carbonate of soda.

Diamond Cut Diamond.

At one of the annual fairs held at a small town in Russia a gentleman observed a gipsy and a Jew haggling over the sale of a horse. Full of curiosity when the two separated, and anxious to know how two such shrewd characters had bargained, the gentleman called the gipsy to him and inquired how much he had got for his animal. The gipsy opened his hand and showed a ten-rouble note.

"But isn't that very cheap?"

"No," said the gipsy, "he is dead lame."

The gentleman then sought out the Jew and said:

"So you have given ten roubles for a lame horse?"

The Israelite laid his finger on his nose and said:

"Lame! He's as sound as you are; I saw he was badly shod, and only limped in consequence."

The inquirer returned to the gipsy and reported what the Jew said. The former gave a tremendous and most significant wink, and whispered:

"He's as lame as two-legged stool. I had him badly shod on purpose, to make them believe that was the cause of his limping."

When this was communicated to the Jew he seemed for the moment taken aback, and hung his head; then, with a little sigh and shrug of the shoulder, he said quietly:

"Ah, well—it's all right—it was a bad ten-rouble note!"—*Exchange.*

LIQUID GLYCERINE SOAP.—One hundred parts of olein, melted over water, are stirred up with 300 parts of 28° Bè glycerine (free from lime), and the whole warmed up to about 145° F. Saponification is effected with 52 parts of 38° potash lye, and the fairly thick soap is allowed to cool. A solution of 6 parts of potash in 10 parts of hot water is then crutched in, and after standing covered for three days the soap is shaken up with a solution of 20 parts of perfume in 30 parts of 96 per cent. spirit. It is then set aside for several days longer, and is then filtered and packed in bottles. Another method is by dissolving a pure, clear soft soap in its own weight of alcohol and water (1:1), and adding some scent and 1½ part of glycerine to the filtered solution.—*Seifenfabrikant.*