

The temperature of the etching solutions also greatly affects the rate at which the etching proceeds; it is therefore advisable always to use them at the same temperature, say 70° Fahrenheit.

Now a word as to making up the etching solutions. The most convenient way is to put about 7 lbs. of perchloride of iron (the solid, not the solution) into a large glass bottle with a wide mouth and pour boiling water upon it sufficient to cover it; after standing for sometime with an occasional stir the perchloride will be dissolved. The liquid can be drawn off, after settling, with a syphon without getting any of the sediment which will be found at the bottom of the bottle.

The solution as it is drawn off will be found to register between 43° and 45° on Baume's scale. A portion of it can be evaporated down to form solution No. 1 at 45° and water can be added in order to obtain the four other strengths. The strength of the solutions can be ascertained by filling a tall jar with the solution and testing it with Baume's hydrometer for heavy liquids. It is as well to give all the solutions a few minutes' boiling as it tends to make them more transparent, and the progress of etching can be more readily observed under them when etching the plate.

With reference to watching the effect of the etching; if the resist printed on standard brown tissue has been printed to a depth only just sufficient to give the details in the shadows, no difficulty should be experienced in watching the darkening of the copper beneath it. There is, however, another tissue which the Autotype Company specially prepare for photogravure work in which the pigment is of a bright transparent red. My experience with this tissue is somewhat limited and I do not, as yet,

feel justified in recommending it to you as superior to the standard brown; but the ease with which the progress of the etching can be watched is very greatly in its favour, and if the tissue is suitable in other respects (and as the Autotype Company prepare it for this especial purpose I have no reason to doubt that it is not entirely suitable) it will soon supersede standard brown entirely.

The plate having been etched, it is removed from the last etching solution and quickly washed under a tap, rubbing the film with the fingers until it has been removed from the plate. This will be found quite easy to do, as the film appears to have become rotten under the action of the perchloride of iron. After drying the plate, the black varnish is removed from the margin and back with a pad of cotton wool moistened in benzole, and the benzole at the same time removes the ground from the plate. Another pad of cotton wool is then taken, a small quantity of spirits of turpentine is poured upon the plate and the plate is again rubbed. After drying, the plate is further cleaned with cotton wool moistened in methylated spirits and dried, and the final polishing is given with the washed whiting and 5 per cent. solution of ammonia, which I have previously mentioned, the plate being gently rubbed with a circular motion, left to dry, and then the whiting having been rubbed off with a dry piece of cotton wool, the plate is ready for printing.

[To be continued.]



Truthful But Artful.

She—Did you ever kiss any other girl, George?

He—None half so sweet as you, darling.