



“FALLS” AMABEL DU FOND RIVER.—G. BETHUNE.

a copper plate with the picture on the metal printed from a positive, and a plate upon which a similar picture has been etched, so that you can see at a glance how the results are attained.

The simplest way of obtaining a photogravure plate of a line subject is to coat a piece of copper with a thin solution of bitumen in benzol, and expose this plate under a clear, sharp transparency in a printing frame. The exposure will take about an hour in a good light. After exposure the image is developed with a little turpentine, and on the dissolving away of the unacted-upon parts represented by the lines on the transparency, the picture will appear as bare metal on a ground of bitumen varnish. On applying an etching solution of perchloride of iron to the surface of such a plate, the etching solution at once attacks the portions of metal bared by the developer, and quickly bites out the lines to a sufficient depth to permit of the plate being inked in and printed from. If the subject required is in gradation of tone, like a portrait or a landscape photographed from nature,

then a different treatment is necessary, and the following method is perhaps the best. From the transparency, or positive, of the tone-negative a print is made in carbon, exactly in the same manner as if one was making an ordinary print; but, instead of developing the carbon print on paper, it is developed direct on to a copper plate, which has previously had a fine grain of resin deposited and melted upon it. A grain of some kind is necessary on all half-tone photogravures, because without it there would not be sufficient texture in the etching pictures to hold the quantity of ink necessary to give a vigorous print. After the carbon print of the transparency is developed and dry, it should present the appearance of the plate which I handed round to you, and it is ready for the etching fluid, which is again perchloride of iron. A little practice is necessary in order to determine the right strength of the etching solution, as well as to judge properly the exact moment when to stop the operation of etching, because if the solution is too strong it will only etch the deepest shadows, and if it is