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TREATMENT OF PAPER OR OTHER FIBER MATERIAL.

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The present invention relates to the treatment of paper or other fiber material which is to be printed, in such a way as to avoid the inconveniences due to shrinking or stretching, which are recognized in certain classes of printing as being a very great detriment. The kind of printing particularly referred to is the printing of "etchings" and the like, in which the paper is, before printing, coated with a "chalk overlay," after which the same is printed by means of a plate, and with most of the papers commonly used, particularly after the chalk overlay has been applied to one or both sides of the same, the paper shows a great tendency to shrink or to stretch, due respectively to the drying or wetting. It will be obvious that the stretching or shrinking is objectionable, because the sheets will not fit the plates for which they are made, and will not fit the plates that they are made from, after shrinking or stretching.

On account of the stretching and shrinking, above referred to, large plates cannot well be used for the printing operation, because the shrinking or stretching would be extensive in the case of large sheets, and the object of the present invention is to avoid the shrinking or stretching referred to.

In accordance with the present invention, the raw paper (or fiber) is treated with a liquid (hereinafter referred to as "emulsion") which may consist of 35 parts of orange shellac, 30 parts of banana oil, 35 parts of alcohol (preferably denatured alcohol). To this emulsion (before use) is added a sufficient amount of coloring matter, possibly "Italian blue," to produce a greenish tint to the emulsion. After stirring the emulsion to make the same homogeneous, the paper is treated on one or both sides with the emulsion, and the preferred method is to completely dip the paper into the emulsion, in a continuous manner, as by passing a strip of the paper, of any desired width, through a bath containing the said emulsion. Said emulson of course will impregnate the paper to thoroughly waterproof the same. The paper is then allowed to dry, after which it can be coated with chalk in any desired manner, preferably by dipping the paper or passing the paper through or in contact with a bath containing the chalk in an emulsified state, (i. e. a suspension of the chalk in water) in a manner well known in the art.

It may be advisable to coat the paper with the emulsion on either one or both sides, depending upon circumstances.

The paper after being thus coated, can be printed and etched in the usual manner, a solution of chloride of lime being suitable for the etching operation, and the paper will not shrink or stretch, when dipped into water or solutions of chloride of lime or other solutions which can be used in the process.

I have above referred to "Italian blue" as coloring matter to be added to the emulsion. Other blue coloring matters which will readily mix with the emulsions, e. g. ultramarine blue, can be used, as well as various coloring matters of various colors that will readily mix with the emulsion.

I claim:

1. A method of treating paper which is to be used for printing operations, which comprises treating said paper directly with a liquid comprising shellac, banana oil and alcohol, and thereafter coating the same with a suspension of chalk.

2. A method of treating paper which is to be used for printing operations, which comprises treating said paper directly with a liquid comprising about equal amounts of shellac and alcohol and a slightly smaller amount of banana oil, and thereafter coating with a suspension of chalk.

3. A method of treating paper which is to be used for printing operations, which comprises directly treating said paper on both sides with a liquid comprising shellac, banana oil and alcohol, and thereafter coating the same with a suspension of chalk.

In testimony whereof I affix my signature.

AUGUST SCHAEFER.