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TREATMENT OF TRANSPARENT MATERIAL.

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To all whom it may concern:

Be it known that I, CHARLES E. SWETT, a citizen of the United States, residing at West Roxbury, in the county of Suffolk and Commonwealth of Massachusetts, have invented a new and useful Improvement in a Treatment of Transparent Material, of which the following is a specification.

The present invention relates to the treatment of transparent material for the purpose of reducing the glare, or reflection of light from its surface. The invention is particularly applicable to the treatment of such material as is used for the transparent patches, or panels, of so-called window envelopes, i. e., envelopes of the type having an opening therein, over which is secured a covering of glassine paper, or other transparent or semi-transparent material.

In window envelopes as thus manufactured, a troublesome feature is the glare or reflection of light from the surface of the transparent patch or panel material, this glare giving rise to objections on the part of those required to handle numbers of such envelopes, as for instance, in the sorting of mail, particularly when the light strikes the plane of the patch at a small angle. The present invention aims to treat the surface of the transparent material with a solution which is adapted to leave the surface in a matt, or non-glare condition.

According to my improved method, an aqueous solution of calcium chloride is brushed, or otherwise spread onto one surface of the transparent material, this solution being of high concentration with not enough water therein to cause warping, or cockling, of the transparent material. The evaporation of this solution leaves the patch material somewhat less transparent than before, but with a firmly adherent fine deposit of calcium chloride, the effect of which is to render the surface matt. Such matt surface is characterized by the fact that it offers no handicap to the attachment of the patch or panel to the body of the envelope by a suitable adhesive, and furthermore the union of the glare-deadening deposit with the panel material is so complete that the non-glare quality of the treated surface is not impaired by the mechanical handling which a patch or panel undergoes in a window envelope machine.

In carrying out my improved treatment, I have discovered that it is advantageous to add to the calcium chloride solution, a relatively small amount of a salt, like sodium or potassium acetate. When such a salt is included in the treating solution, any condition which might tend to liberate acid in the deposit on the panel material will result in the liberation of an acid not destructive to cellulose, instead of the hydrochloric acid which might be liberated from the calcium chloride solution alone. While sodium or potassium acetate is specifically mentioned as the salt added to the solution, it is obvious that other salts may be employed which are capable of reacting with hydrochloric acid so as to yield an acid not destructive to the patch material.

From the foregoing, it is apparent that by the practice of my invention, patch material can be rendered matt or glareless without too much reducing its transparency, and without impairing the qualities which are essential for its successful handling by an envelope making machine.

I claim—

1. The treatment of transparent material by applying to the surface thereof a solution of calcium chloride which on evaporation leaves a deposit giving a substantially matt surface.

2. The treatment of transparent material by applying to the surface thereof a concentrated aqueous solution of calcium chloride which on evaporation leaves said material transparent with a substantially glareless surface.

3. The herein described treatment of transparent material with a strong solution of calcium chloride containing a salt capable of reacting with hydrochloric acid so as to yield an acid not destructive to the said material.

CHARLES E. SWETT.