The present invention relates to treatment of transparent material, such 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.

It is known that the degree of transparency of panel material, such as glassine paper, may be considerably increased by the treatment of a surface of the material with a liquid having resinous, or other transparent matter in solution, which liquid upon drying forms a transparent film. But as the transparent film resulting from this treatment is usually on the outside surface of the patch or panel when it is applied to the envelope, it has been found that the glare or reflection of light from the surface of the transparent patch or panel, gives rise to objections on the part of those required to handle large numbers of such envelopes, as for instance, in the sorting of mail.

According to my present invention, it is proposed to treat transparent panel material, such as glassine paper, in such a manner as to both increase its transparency and to reduce the glare, with a net gain in both directions.

Broadly stated, my invention consists in treating the surface of the panel material which is to be outermost so as to leave it in a matt, or non-glare condition, and in treating the surface of the material which is to be innermost with a transparent film forming material of high refractive index.

In carrying out my invention, one surface of the material is treated with a suitable solution which is adapted upon evaporation to leave the surface in a matt or non-glare condition. There are quite a number of solutions which will accomplish this result, among which may be mentioned a concentrated aqueous solution of calcium chloride. The other surface of the material is then treated with a suitable substance which will result in the formation of a film having the property of increasing the transparency of the material. Quite a number of substances may be used for this purpose; for example, tannic acid dissolved in alcohol may be applied to form the film, and if desired, a material of a higher refractive index, such as terpin hydrate may be added to the solution to further increase the transparent qualities of the film.

The result of the above described treatment of opposite surfaces of the material is a decrease of the transparency of the original material due to the glare reduction on one surface and an increase of the transparency of the original material, due to the formation of a transparent film on the other surface thereof. In the practice of my invention, the treatment for glare reduction is carried out to such an extent as to diminish the transparency of the original material by about 25%, while the treatment to increase the transparency is carried out to such an extent as to increase the transparency of the original material about 50%, although it is obvious that other degrees of treatment may be employed. Considering the above figures as a concrete example, it follows that the carrying out of my invention results in a net gain in transparency of about 25% and a reduction of glare as measured by standard instruments of about 50%.

From the foregoing it is apparent that by treating a transparent material such as glassine paper, in accordance with my invention, there is produced a material which can be used most effectively for the patches or panels of window envelopes, by reason of the fact that the surface which is outermost is substantially glareless, whereas the treated material itself has a transparency greater than that of the original untreated material. In carrying out my invention I am in no way limited to the use of any specific substances for treating the surfaces of the material, my invention residing in the principle involved as set forth in the appended claims.

I claim:

1. The improvement in the treatment of glassine paper which consists in treating one surface of the glassine paper to reduce glare and, treating the other surface of the glassine paper to increase transparency.

2. The improvement in the treatment of glassine paper which consists in treating one surface of the glassine paper to reduce glare, and treating the other surface of the glassine paper to increase transparency resulting from the second named treatment more than overcoming the loss of transparency resulting from the first
named treatment, whereby there is a net gain in the transparent properties of the treated paper.

3. The improvement in the treatment of flexible transparent material used for the patches or panels of window envelopes which consists in treating one surface of said material to reduce glare, and treating the other surface of said material to increase its transparency.

4. The improvement in the treatment of flexible transparent material used for patches or panels of window envelopes which consists in treating one surface of said material to bring it to a matt or non-glare condition, and treating the other surface of said material to form a film of higher refractive index than the untreated material.

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