UNITED STATES PATENT OFFICE.

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PROCESS FOR PRODUCING LEATHER SUBSTITUTES.

1,130,619. Specification of Letters Patent. Patented Mar. 2, 1915.

No Drawing. Application filed January 8, 1912. Serial No. 670,080.

To all whom it may concern:

Be it known that I, RICHARD ALEXANDER McLAURIN, paper manufacturer, a subject of the King of Great Britain and Ireland, residing at 4 Windsor Quadrant, Kelvinside, Glasgow, Scotland, have invented new and useful Improvements in Processes for Producing Leather Substitutes, of which the following is a specification.

This invention has reference to and comprises improvements in substitutes for leather and process of preparing same, said substitutes being suitable for use in the upholstery, fancy leather and bookbinding trades and for many other purposes in place of leather, leatherette, cloth paper or like materials, where such are presently employed, being both durable and waterproof and having the appearance and qualities of real leather.

The material which is employed as the foundation of this substitute for leather is that material called "vellum cloth" or any similar material of a closely felted fibrous nature but not woven, in which the fibers are firmly bound together and intermixed with a suitable binding material.

In carrying this invention into effect or practice, the "vellum cloth", preferably in web form, is first dyed to a shade as near as possible to the desired shade of the finished article by being run through a bath of anilin or other dye with a suitable mordant. It is then dried and calendered in a cold calender after which it is coated by any suitable coating machine with one or more coats of celluloid or nitrocellulose in solution to which some dry coloring matter has been added. After being dried in any suitable manner it is again calendered the drying and calendering being repeated after each coating and finally, if desired, it is embossed or otherwise treated.

To cheapen the process by reducing the amount of celluloid absorbed by the material, the "vellum cloth" is first dyed, and after being dried, has two coats of flexible glue to which coloring matter has been added applied to it, one on each side, after which it is dried and calendered then treated with the celluloid solution as before.

For the production of one quality of leather substitute of a black color the process is as follows:—The "vellum cloth" or like material is first dyed, dried, calendered and then saturated by being coated on both sides in any suitable roller coating machine with a solution of flexible glue consisting of 112 lbs. glycerin, 144 lbs. glue powder, and 112 lbs. water, to which is added black pulp lake in quantity sufficient to impart the desired color. After coating and drying the material is calendered in a cold calender, the calendered side being hereinafter called the face side. The material is now coated on its face side with one or more coatings of celluloid or nitrocellulose in solution prepared preferably by dissolving celluloid chips or shavings in methylated spirits, with a proportion of camphor added, with sufficiency of dry black color in powder. After each coating the material is dried in any suitable manner and calendered on its face side, the coating and calendering being repeated a number of times according to the quality desired. The final coating consists of a pure solution of nitrocellulose material with or without any color. The material is again calendered and if desired embossed with any pattern desired by impressing rollers, plates in a press or in any suitable manner, or otherwise treated.

Instead of black any desired color may be imparted to the material.

What I claim as my invention and desire to secure by Letters Patent, is:—

1. The process of making a leather substitute, which consists in dyeing a web of closely felted fibrous material, coating said web on both faces with a solution of flexible glue, coating one face of the web with a solution of nitrocellulose and camphor, and finally coating said face with a solution of pure nitrocellulose.

2. The process of making a leather substitute, which consists in dyeing a web of closely felted fibrous material, drying and calendering the web, coating both faces of

the web with a solution of flexible glue, drying and calendering the web, applying a plurality of coats of nitrocellulose and camphor to the web and drying and calendering it after the application of each coat, finally coating the web with a solution of pure nitrocellulose and calendering the same.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

RICHARD A. McLAURIN.

Witnesses:

ROBERT CLEGHORN THOMSON,

THOMAS BENNIE BROWNLIE.