UNITED STATES PATENT OFFICE.

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LEATHER SUBSTITUTE.

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To all whom it may concern:

Be it known that I, MAURICE SCHEUER, a citizen of the United States, residing at the city, county, and State of New York, have invented a new and useful Improvement in Leather Substitutes, of which the following is a specification.

My invention relates to a new article of manufacture to be used as a substitute for leather and it is my object to produce a bonded, laminated structure which will have the appearance of fine leather, which will have great tensile strength and frictional resistance, wearing qualities, capable of being made in any thickness and which can be pared, skived, creased, polished, embossed and grained in the same way as any leather and with like results.

Heretofore artificial or substitute leathers in which pyroxylin compounds are used depended upon their backings as well as a firm anchorage between the compound and the backing for their strength and wear, the fabric backing contributing strength and wear and the coating the appearance and simulation of leather.

In making my leather substitute I employ a carrying vehicle upon which, by means of successive coatings on one or both sides of a suitable pyroxylin compound in solution, the desired thickness is obtained. This carrying vehicle may be, and preferably is, a textile fabric although any other vehicle in sheet form strong enough to withstand the strains of the spreading machine, such as finely woven wire netting, thin and pliable metal, paper, asbestos or the like, may be employed.

Where a non-absorbent carrying vehicle is employed, the relatively high oil content pyroxlin compound hereinafter referred to need not necessarily be used, as there is no tendency on the part of the coating to become anchored to the vehicle.

That the carrying vehicle may be readily stripped from the leather substitute when it is desirable to do so I find that a pyroxylin compound having a high vegetable oil content and a low nitrated cotton content accomplishes this. By using such a compound for my first coats a firm anchorage between the carrying vehicle and the compound is prevented.

After the non-anchorage coat or coats have been applied a succession of body coats of a suitable pyroxylin compound are applied until the desired thickness is obtained.

I find that a coating compound consisting of

Nitrated cotton	10	parts
Castor oil	20	parts
Amyl acetate	15	parts
Wood alcohol	20	parts
Refined fusel oil	5	parts
Benzene	30	parts
Color pigment	3	parts

is an excellent one for this purpose.

A finishing coat or coats containing a higher nitrated gun cotton content than vegetable oil content is finally applied. This finishing compound may be obtained by increasing the nitrated cotton content of the undercoat compound.

On coating and re-coating to obtain the proper thickness the solvents in the pyroxylin solution partially redissolve the surface of the previous coating so that the multiple laminations are firmly bonded together or united.

After a sufficient thickness has been attained the substitute may be grained between dies in simulation of any desired leather either with or without the carrying vehicle.

For many uses the carrying vehicle may be stripped from the leather substitute but when stitching is employed I find that it is best to use and retain a fabric as the carrying vehicle to insure permanency of the stitch as the product while supple and tenacious is not fibrous and the stitching has a tendency to tear out.

Multiple coatings should be employed as I have found that when sufficient pyroxylin solution has been spread to produce the desired thickness at one time the solvents do not evaporate readily and an unsatisfactory product results.

My new article of manufacture may be distinguished from prior materials by the fact that the strength is in the laminated coating and not in the carrying vehicle, by the fact that the coating may be removed intact from the carrying vehicle and by the fact that there is no anchorage between the carrying vehicle and the coatings.

I claim:—

1. As a new article of manufacture, a leather substitute composed solely of a sup-

ple sheet built up of successive layers of pyroxylin compound united into an integral structure of sufficient thickness to resist the strains of ordinary use.

2. As a new article of manufacture, a leather substitute composed of a carrying vehicle and a facing of supple pyroxylin compound built up of successive layers united into an integral structure of sufficient thickness to be removed intact from the carrying vehicle.

3. As a new article of manufacture, a leather substitute composed of a carrying vehicle and a facing of supple pyroxylin compound built up of successive layers united into an integral structure there being no anchorage between the carrying vehicle and the facing.

4. As a new article of manufacture, a leather substitute composed of a supple sheet built up of successive layers of pyroxylin compound united into an integral structure, one face of which is a compound of pyroxylin with a relatively high oil content and the other face of which is a pyroxylin compound with a relatively high nitrated cotton content.

5. As a new article of manufacture, a leather substitute composed of a carrying vehicle, a coating of pyroxylin compound having a relatively high oil content and a superimposed coating of pyroxylin compound having a relatively high nitrated cotton content, there being no anchorage between the pyroxylin compounds and the carrying vehicle.

6. The method of making leather substitute comprising applying successive coatings of a pyroxylin compound to a carrying vehicle until sufficient thickness is obtained to resist the strains of ordinary use, the united, built-up pyroxylin layers being capable of removal intact from the carrying vehicle.

7. The method of making leather substitute comprising applying successive coatings of a pyroxylin compound to a carrying vehicle until sufficient thickness is obtained to resist the strains of ordinary use and finally removing the united, built-up pyroxylin coatings intact from the carrying vehicle.

8. The method of making leather substitute comprising applying successive coatings of a pyroxylin compound having a relatively high oil content to a carrying vehicle and re-coating with a pyroxylin compound having a relatively high nitrated cotton content, until sufficient thickness is obtained to resist the strains of ordinary use, the united, built-up coatings being capable of removal intact from the carrying vehicle.

9. The method of making leather substitute comprising applying successive coatings of a pyroxylin compound having a relatively high oil content to a carrying vehicle, applying successive coatings of a pyroxylin compound having a relatively high nitrated cotton content and finally removing the united, built-up pyroxylin sheet from the carrying vehicle.

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

MAURICE SCHEUER.

Witnesses:
ROBERT B. KILLGORE,
MAY M. LIPP.