

UNITED STATES PATENT OFFICE.

PAUL KRAIS, OF ILKLEY, ENGLAND, ASSIGNOR TO THE BRADFORD DYERS' ASSOCIATION LIMITED, OF BRADFORD, ENGLAND.

FINISHING TEXTILE GOODS.

No. 834,913.

Specification of Letters Patent.

Patented Nov. 6, 1906.

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To all whom it may concern:

Be it known that I, PAUL KRAIS, Ph. D., a subject of the German Emperor, residing at 5 Easby drive, Ilkley, England, have invented certain new and useful Improvements in Finishing Textile Goods, of which the following is a specification.

Certain classes of piece goods have for a long time been passed between rollers engraved with fine parallel lines in order to give them a silk-like gloss or luster, which is commonly known as "Schreiner finish." The gloss or luster produced by such mechanical means is, however, fugitive, being more or less lost when the goods are exposed to a moist atmosphere or to rain or to the tailor's iron. For many years past efforts have been made to render such mechanical finishes permanent, and many processes have been tried; but up to the present time only a very partial success has been obtained. For example, it has before been proposed to render permanent the finish produced by the Schreiner rolls by treating the goods with different solutions of nitrocellulose; but hitherto for various reasons such processes have not produced wholly satisfactory results. It has been ascertained that this is attributable to the character of the solvents which have been employed.

With some solvents the moisture which is always present in the fabrics causes the nitrocellulose to be deposited in an opaque instead of a transparent form, thus changing the appearance of the goods. Some solvents are highly inflammable and explosive when their vapors are mixed with air, and are therefore dangerous. Some solvents act as anesthetics, and are therefore dangerous to the life and health of the workman. Some solvents impart to the goods a disagreeable smell. Some solvents have too high and others too low a boiling-point to render their use easy, and so on.

After a long series of experiments and after trials of almost all known and many hitherto unknown solvents one has at length been discovered which is free from all of the above-

named objections. This solvent is amyl formate, (the formic-acid ether of isoamyl alcohol.) Its use is free from danger, it does not render the nitrocellulose opaque, and it has a comparatively high but not too high a boiling-point, (about 124° centigrade.) The solution also is very fluid, and consequently it is possible to produce extremely thin films or coatings on the fibers of the fabric, which is a matter of great importance. A five-per-cent. solution is suitable, and it may be applied to the fabric in any of the usual ways—for example, by spraying. The solution is preferably applied twice in succession, the solvent being evaporated after each application; but the resulting coating should not form a complete skin, nor should it waterproof the fabric, but be merely just sufficient to fix the mechanically-produced luster finish.

What I claim is—

1. The process herein described of finishing textile goods which consists in coating them with a thin solution of nitrocellulose in amyl formate and then evaporating the amyl formate, substantially as described.

2. The process herein described of finishing textile goods which consists in producing a silk-like luster or gloss thereon, and then rendering this gloss or luster permanent without changing the appearance of the goods and without imparting a disagreeable odor thereto by coating the goods with a solution of nitrocellulose in amyl formate and then evaporating the amyl formate.

3. The process herein described of, finishing textile goods which consists in passing them between engraved rollers, then coating the goods with a solution of nitrocellulose in amyl formate, and then evaporating the amyl formate thereby fixing or rendering permanent the finish produced by the rollers without forming on the goods an opaque skin or imparting a disagreeable odor thereto.

PAUL KRAIS.

Witnesses:

I. SINGER,

G. GILBERT THOMPSON.