

# UNITED STATES PATENT OFFICE.

JACOB SCHALUS, OF GUNTERSBLUM, GERMANY.

## LIQUID FOR REMOVING STAINS FROM TEXTILE FABRICS.

SPECIFICATION forming part of Letters Patent No. 547,967, dated October 15, 1895.

Application filed December 15, 1894. Serial No. 531,953. (No specimens.)

*To all whom it may concern:*

Be it known that I, JACOB SCHALUS, of Guntersblum, in the German Empire, have invented a new and useful Liquid for Removing Stains from Textile Fabrics, of which the following is a specification.

My improved liquid consists of a liquid containing a suitable oxalate or oxalic acid and a substance capable of neutralizing its corrosive and bleaching action upon the fabric to be cleansed without destroying its power to remove such stains as ordinarily will occur upon garments or grease or similar soiling. To make the compound thus formed capable of penetrating freely into the material, and at the same time cause it to dry out therefrom quickly, I dissolve them in a medium suitable to produce these results.

The preferable constituents of my invented liquid are salt of sorrel, (acid potassium oxalate  $C_2HKO_4$ ), a solution of bile, (the most important ingredients being a cholic acid or acids and soda or potassa, forming partly a resinoid soap, as is well known) or a gall-nut solution, (principally gallotannic acid  $C_{27}H_{21}O_{17}$ ), and spirits of wine, the proportion being preferably, by weight, about forty per cent. each of the solution of potassium oxalate and gall-nut or bilious solution and twenty per cent. of alcohol. This is most suitable for fine cambrics. For coarser fabrics spirit of sal-ammoniac may be substituted for gall-nut solution and the proportions preferably varied to, say, fifty per cent. of the oxalate, thirty per cent. of the spirit of ammonium chloride, and twenty per cent. of the alcohol. These proportions act very successfully. First each spot will be removed entirely and without leaving any border or outline of the stain, such as has frequently been observed after cleansing liquids have been used heretofore. At the same time there is no destruction of the fiber, and the fabric therefore does not become rotten or brittle at the parts subject to the action of the liquid.

The action of the oxalic acid or an oxalate

alone is bleaching and corrosive, and while it will take out stains and remove the grease spots it will also completely destroy the fabric and remove the color. The gallic, tannic, or gallotannic acid in the gall-nut solution or the cholic acid, and in less degree perhaps the resinoid soapy material of the bile solution, will act upon the fiber and the dye and protect them from destruction by the oxalic acid or oxalate, and will also combine with the oxalic acid or its salt to render it innocuous to the fabric and its dye.

The use of ammonium chloride with the oxalic acid or its salt is also mainly for the purpose of rendering the oxalic acid innocuous to the fabric and dye. The spirit of wine in this case also is merely a diffuser and drier, causing the mixture to diffuse quickly and thoroughly through the fabric and also to dry out quickly, and when this is not requisite it may be omitted both with the solution containing chloride and that containing the tannic acid.

What I claim, and desire to secure by Letters Patent, is—

1. A liquid for removing stains from fabrics containing oxalic acid or salt thereof gallotannic acid and a diffusing medium substantially as described.

2. A liquid for removing stains from fabrics containing acid potassium oxalate, gallotannic acid, and a diffusing and drying medium substantially as described.

3. A liquid for removing stains from fabrics containing acid potassium oxalate, an anti-corrosive material for protecting the fabric and its dye and a diffusing and drying medium in which the same are dissolved substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JACOB SCHALUS.

Witnesses:

JAMES H. SMITH,  
CARL ED. HAHN.