(12) **United States Patent**
Comstock

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(54) **WATER PROOF LEATHER & CLOTH**

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J. A. Comstock.

Letter Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said J. A. Comstock himself of his discovery being a method of making water proof cloth for cloaks, dresses, hose, carriage tops carriage boots, & curtains life preservers, boots, shoes, balloons, gas tubes, mail & travelling bags and for other purposes whereof the said inventor claims for himself the discovery

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It has long been a desideratum in the arts and comforts of life to obtain some cheap substance which being applied to cloth and leather would render them impervious to water, without destroying their flexibility or other good qualities. For this purpose India Rubber or Gum Elastic has been subjected to a great variety of experiments as the substance by means of which such an object was most readily to be attained. But the difficulty has been to find a cheap solvent which after reducing the gum to a state in which it could be spread with a brush would again evaporate and leave it in its original dry insoluble state.

Spirits of turpentine when washed has long been a known solvent of this gum but the difficulty of suspending the solution owing to the sudden evaporation of the other together with its high price will always forbid its employment for common purposes.

Oil of tar or the oil distilled from tar obtained by coking of pit coal or other bituminous substances dissolves India Rubber but this solution is entirely unfit to be employed on account of the very unpleasant smell which it and which it retains even for years.

The Seneca oil and the Naphtha which may be obtained from the Barbadoes tar though of them solvents are equally objectionable on the same account.

Spirit of turpentine it is well known to chemists, and perhaps to others, to a solvent of gum Elastic, and many experiments have been made to bring this solution to a state in which it might be employed exclusively for useful purposes, but it is believed that heretofore no valuable use has been made of the composition. The subscriber has however discovered that the composition of Gum Elastic dissolved in spirit of turpentine may be employed for many valuable purposes when applied according to the following specifications

Specification 1. Take a sheet or side of leather and if it is thicker on the flesh side shave off with a curriers knife the superfluous or grain side so that the water proof shall not affect the stronger. If the skin is thicker on the smooth or grain side the shaving is unnecessary. Next oil the skin intended, and extended with nails or otherwise, on a smooth flat surface, and when it is dry spread with a brush on the underneath side of the leather a solution of gum elastic in spirits of turpentine. When one coat is dry, spread another, and so for two or three times when the surface will be completely covered with a shining coat of gum elastic. Then extend a piece of yellow or other cloth or linen with tenter hooks, and on one side lay two or three coats of the solution waiting as before for each coat to dry before another is applied. Lastly when the two coated surfaces are nearly dry bring them into close contact by passing the leather and cloth coat to coat between a pair of wringers or mangle rollers. This leather is employed in the manufacture of shoes and other garments

Instructions the leather for gentlemens boots only the feet are made water proof

Sheet 2d To make water proof boots let the parts be blocked or cut out in the usual manner, then oil the part which forms the foot be buffed or shaved on the inside, as directed above. Then coat the lining of buckskin or other leather of the tops of the boots

the boot letting it come up to the ancle. Next spread the solution on the side which has been shaved, and do the same to the rough side of the lining; and when nearly dry unite these two surfaces by passing them through the rolling press, in the making, let the stitches of the inside be covered with the solutions and let there be inserted between the outer and inner sides a lining of water proof leather laying the shave side next the inside.

Spec 3. To make water proof cloth extend the fabric on a bench with tenter hooks and apply the solution as above directed to one side of each piece until the surface of each presents a shining appearance and the threads are accurately covered then bring the two coated surfaces into close union by passing the cloth between a pair of rollers.

Spec 4. To make water proof shoes of Russella, proceed as in spec 3 and employ Russella or as a lining for the Russella, linen cotton or linnen cloth, and in making, cover the stitches of the inside, and unite a water proof lining of leather as directed for the boots

Spec 5th In the making of water proof clothing, cut out, and sew the garment together as usual, then protect the seam by sticking slips of water proof cloth over them on the inside

By pursuing these directions boots & shoes of leather or cloth and clothing of all kinds may be rendered entirely impervious to water, the solution retaining in a good degree their flexibility. It is found also by experience that boots and shoes of this kind, are much more durable than those made in the ordinary manner.

I claim as my discovery, the application of gum elastic dissolved in spirits of turpentine for the purpose of rendering water proof leather and water proof cloth, as described in the foregoing specification

Witnesses

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