

# UNITED STATES PATENT OFFICE.

WALTER J. REYNOLDS, OF PROVIDENCE, RHODE ISLAND.

## PROCESS OF TREATING SHORT ANIMAL-HAIR.

SPECIFICATION forming part of Letters Patent No. 264,103, dated September 12, 1882.

Application filed July 3, 1882. (No specimens.)

*To all whom it may concern:*

Be it known that I, WALTER J. REYNOLDS, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Process for Treating Short Animal-Hair; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention has reference to an improved process for treating the hair from cows, oxen, and calves, and other short hair from animals; and it consists in the various steps of the process by which elasticity and stiffness is imparted to the hair, so as to make it useful for upholstery and similar purposes, as will be more fully set forth hereinafter.

In carrying out my invention I take the hair as it comes from the tanner and thoroughly wash and cleanse it, so as to remove all glutinous matter; and to accomplish this most thoroughly I boil the hair in water in which soda-ash, or its equivalent, is dissolved. The thoroughly-washed hair I now dry, and then open the same by means of an opener or picker machine. I now clean the opened hair by carding in a carding-engine, and twist the carded hair into roping, which is then again twisted into or tied into knots. The hair, in the knotted form, is now immersed in a bath containing seventy-five gallons of water, five pounds of frozen glue, or what is termed "furniture-glue," five pounds of starch, three pounds of alum, and one or two pounds of oil of red cedar. From two to three hundred pounds of hair can be placed into a bath of the above quantity. I now boil the hair in this solution from four to five hours, remove the hair, drain the same, and then either subject the hair to pressure or place the same into a hydro-extractor, so as to remove as much as possible of the solution. I now thoroughly kiln-dry the hair in the knotted state, and when thoroughly

dried I open the same in a picker—such as is used for opening hair.

By this process a hard sizing is imparted to all parts of the hair. The hair becomes stiffer and more elastic. It can be used for upholstery and other purposes for which it was not useful heretofore, and as the hair is impregnated with the oil of red cedar it will not be attacked by moths.

The object of this invention being to add stiffness and springiness to the hair, it is obvious that materials equivalent to the glue, starch, and alum may be used in their stead. Among such is the concentrated enamel made of boiled linseed-oil, Prussian blue, and other minor ingredients, to which oil of red cedar may be added, and the hair immersed and treated before and after such immersion as hereinbefore described.

I find that hair treated by my new process forms an elastic and firm cushion; that it wears much better than wool, and makes an upholstery nearly equal to horse-hair. It should be kept in a dry place until used.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As a new article of manufacture, cows' and similar hair prepared with a sizing and oil of red cedar, in the manner and for the purpose herein set forth.

2. The process herein described for preparing cows' and similar hair, the same consisting in cleaning the hair and boiling the same in water containing glue, starch, alum, and oil of red cedar, or their equivalents, as and for the purpose described.

WALTER J. REYNOLDS.

Witnesses:

JOS. A. MILLER,  
M. E. EMERSON.