

UNITED STATES PATENT OFFICE.

JOHN F. GREENE, OF BROOKLYN, ASSIGNOR TO ANGORA WOOLEN COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN PROCESSES OF TREATING ANIMAL FIBER.

Specification forming part of Letters Patent No. **193,649**, dated July 31, 1877; application filed December 2, 1876.

To all whom it may concern :

Be it known that I, JOHN FOSTER GREENE, of Brooklyn, Kings county, New York, have invented an Improved Fiber, of which the following is a specification :

My invention relates to an improved fiber obtained by treating animal hair, more especially buffalo-hair, and to the mode whereby said fiber is produced of the requisite color, and in the condition necessary to constitute a merchantable article. While the hair of various animals may be treated, I have produced the best product from buffalo-hair, which, in its natural condition, is dark in color, coarse and harsh in texture, and in a gummy condition, which unfits it for spinning into yarn.

I take this hair in its natural condition, wash it, and then introduce it into a hot bath consisting of nitric acid and water, in the proportions, generally, (although they may be varied,) of about one part of the acid to ten of water. After an immersion of from ten minutes to half an hour the hair is removed, when it is washed and dried. The effect of the bath is to remove all the gummy matter from the hair, render it soft and elastic, and to impart to it a color so bright and strong that the hair is in a merchantable condition as a colored fiber without any preparatory bleaching and dyeing process. If, however, other colors be required, the fiber may be made so light in color that it will take in dyeing other desirable shades.

The same results as I obtain by the use of nitric acid I can also obtain by using any salt of nitric acid, such as saltpeter, (nitrate of soda or potash,) and an acid, such as sulphuric, which will liberate the nitric acid from the saltpeter; or any compound which will produce nitric acid may be employed.

I have found that the usual dark-brown hair of buffaloes or cows becomes, under the above treatment, a bright clean yellow, so that the yarn made therefrom may be woven into blankets of a most desirable shade and quality, or employed in the manufacture of carpets, thereby increasing its value to from three to four times that of the original material.

As the color which is produced by my process is perfectly fast, and is not destroyed or altered by acids or alkalies, the fiber is much preferable to ordinary yellow-dyed fibers, which do not possess these properties.

My prepared fiber may be readily distinguished from other dyed or bleached fibers by the general appearance as to color, feeling, texture, and by the action of acid and alkalies upon it. While bearing a strong resemblance to wool in appearance it can be readily distinguished by an expert, as it does not shrink like wool, although the treatment imparts felting properties not possessed by the fiber in its natural state.

I claim—

1. The within-described mode of producing an improved colored fiber—that is, subjecting animal hair of the character specified to the action of a hot nitric-acid solution, or the equivalents set forth, and then drying the same, all as described.

2. The within-described colored fiber, consisting of the animal hair specified, having a light color, unalterable by acid, as set forth.

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

JOHN FOSTER GREENE.

Witnesses :

F. B. SEACOR,
W. W. HUNTINGTON.