

UNITED STATES PATENT OFFICE.

EDWIN D. McCracken, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MANUFACTURE OF FELTED FABRICS.

Specification forming part of Letters Patent No. 49,131, dated August 1, 1865.

To all whom it may concern:

Be it known that I, EDWIN D. McCracken, of the city, county, and State of New York, have invented a new and useful Improvement in Felted Goods; and I do hereby declare that the following is a full, clear, and exact description of the same.

It has long been a desideratum with manufacturers of hats and other felted goods to obtain some cheap vegetable fiber that could be mixed with wool or fur and so incorporated therewith by the felting process as to produce a perfect felt. This has been more especially the case with respect to fur goods, the very high price of fur rendering it very desirable to find some cheaper material that could be mixed with it without deteriorating the quality of the goods; but I believe that hitherto no vegetable fiber of suitable character has been discovered, or, if discovered, has ever been successfully treated to render it practically applicable to the purpose. I have discovered that the fibers of the various reeds and canes, particularly those classified by botanists as "arundo" and "bambusa," are applicable to the above purpose; and my invention consists in the use of such fibers, in combination with fur or wool, or with both fur and wool, in the manufacture of felt hats or other felted goods.

In carrying out my invention I take the cane or reed and after cutting it into pieces of convenient length for manipulation I disintegrate it, either by the steam process of Lyman or by subjecting it to the action of alkalies or acids, as is the common practice for the disintegration of vegetable fiber, or by any other suitable means. I then bleach and further disintegrate the fiber by boiling it in a solution of caustic alkali, either in an open vessel or in a close boiler under pressure. After thus boiling I wash it in clean water, dry it in a centrifugal machine or by other means, and subject it to the action of pickers, cards, or other machin-

ery used for separating animal or vegetable fibers. The mixture of the fiber with wool may be effected in a picker or carding machine, and its mixture with fur may be effected in the manner practiced in mixing fur of different kinds for felting.

The mixture of fur and cane or reed fiber may be manufactured into felted goods in the same manner as fur is manufactured into such goods, and the mixture of wool and cane or reed fiber may be manufactured in the same manner as wool felt.

The strength of the solution of caustic alkali in which the disintegrated fiber is boiled may vary from 3° to 20° Baumé, according to the color to which the fiber is to be bleached, for making lighter or darker colored goods, and according to the fineness of the fiber required, a stronger solution being required to produce a lighter-colored and finer fiber and a weaker solution to produce a darker-colored and coarser fiber.

The maximum strength above mentioned is only necessary when it is desired to reduce the cane or reed to its ultimate fiber. I have found by experiment that from thirty-three to fifty per cent., by weight, of the cane or reed fiber may be mixed with fur or wool without apparently impairing the quality of the felt. It is probable that even a larger proportion of the cane or reed fiber may be used, and of course as much smaller a proportion as is desired may be used.

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

The use of the fiber of cane or reed, in combination with wool or fur, or with both wool and fur, in the manufacture of felted goods, substantially as herein described.

EDWIN D. McCracken.

Witnesses:

J. W. COOMBS,
SAM. L. HARRIS.