

UNITED STATES PATENT OFFICE.

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METHOD OF PREPARING HAIR, &c.

SPECIFICATION forming part of Letters Patent No. 782,316, dated February 14, 1905.

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To all whom it may concern:

Be it known that we, JOHN BATTIS and ALFRED PUTNAM GOODELL, citizens of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have jointly
5 invented a certain new and useful method of preparing horsehair, mohair, human hair, wool, and other fleece so that the said fibers may be stiffened and still retain their flexibility and made applicable to articles of dress
10 and manufacture where rigidity, flexibility, and elasticity are needed for use or ornament, of which the following, taken in connection with the accompanying specimen, is a specification.

Our invention relates to a new and useful method of making and the product of a substitute for whalebone; and it consists in the
20 binding of single hairs or fibers into an individual bundle by first coating the hairs or fiber with cement and causing a complete adhesion between the several fibers and allowing the same to dry and afterward molding the mass of fibers in a mold and again allowing
25 the fibers to dry and afterward coating the bundle with cement, preferably of the same material used for treating the individual fibers, thereby producing an individual strip which will not split, crack, or break.

In carrying out our invention it is our purpose to employ any suitable fiber, preferably hair, and place the same in parallel layers of any length or thickness and treat the fibers individually with any suitable waterproof,
35 elastic, pliable cement, and after the same has been allowed to dry, preferably under pressure, whereby the fibers are held in proper parallel relation to produce an adhesion between the coated fibers and prevent bunching or entwining the same, forming the same into a
40 single strip of any desired shape, form, and thickness. Following this preparation or treatment the cohering strips of fibers having the individual coating of pliable cement or glue are incased by a covering, preferably of
45 the material used in coating the individual fibers, to effect an adhesion, thereby producing a homogeneous strip, which may be thick or thin as the resistance of the interior fibers

is greater or less, as the greater the number of
50 fibers in the bundle the greater the splitting strain will be under a bending stress. The top of the strip passing through a greater arc than the bottom will have a tendency to flatten and squeeze out at the sides the center
55 fibers. Therefore the walls inclosing said fibers must be of sufficient strength to withstand the pressure, and so allowing the reaction to be complete and the piece to fly back to its original position ready for repeated strains
60 and returns without splitting. By having the coating surrounding the individual fibers of the same consistency and nature as the cement surrounding the interior fibers we have found that the same elasticity is produced, which will
65 prevent cracking or splitting under stress of the bending of the strip.

We are aware that it has been common in the art to manufacture substitutes for whalebone in which fibers of various kinds have
70 been utilized which have been woven or braided and glued together in layers in various manners, and hence we make no claim for such construction. In our invention each fiber is permitted to exercise its individual function in establishing the necessary pliability
75 and elasticity required to produce a satisfactory product which will stand all of the tests which have been applied to the same and without splitting, breaking, cracking, or losing
80 any of its elasticity.

The product of our invention provides a unique article of manufacture quite equal to whalebone itself and adapted for the various
85 uses for which the latter is employed.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A method of forming a substitute for whalebone consisting in coating individual
90 fibers with an elastic, pliable material assembling the same in a layer or strip and permitting the fibers to partially dry, afterward subjecting the same to pressure to even form preparatory to their being covered, as set forth. 95

2. A method of forming a substitute for whalebone consisting in coating two or more individual fibers with an elastic, pliable ma-

terial and permitting the fibers to partially dry, afterward assembling the fibers, subjecting the same to pressure to shape the same evenly in a layer, and afterward incasing said
5 layer with a covering of adhesive material in sheet form, said material to be identical in composition with the elastic, pliable material coating said two or more individual fibers, as set forth.

10 3. As an improved article of manufacture, a substitute for whalebone made up of a series of fibers individually coated with cement and pressed together in parallel relation, and a

casing of the same kind of cement in sheet form surrounding said fibers forming a homogeneous strip, as set forth. 15

In testimony whereof we have affixed our signatures to this specification, in the presence of two subscribing witnesses, on this 21st day of January, A. D. 1902.

JOHN BATTIS.

ALFRED PUTNAM GOODELL.

Witnesses:

WILLIAM H. TOBIN,

JOHN J. REGAN.