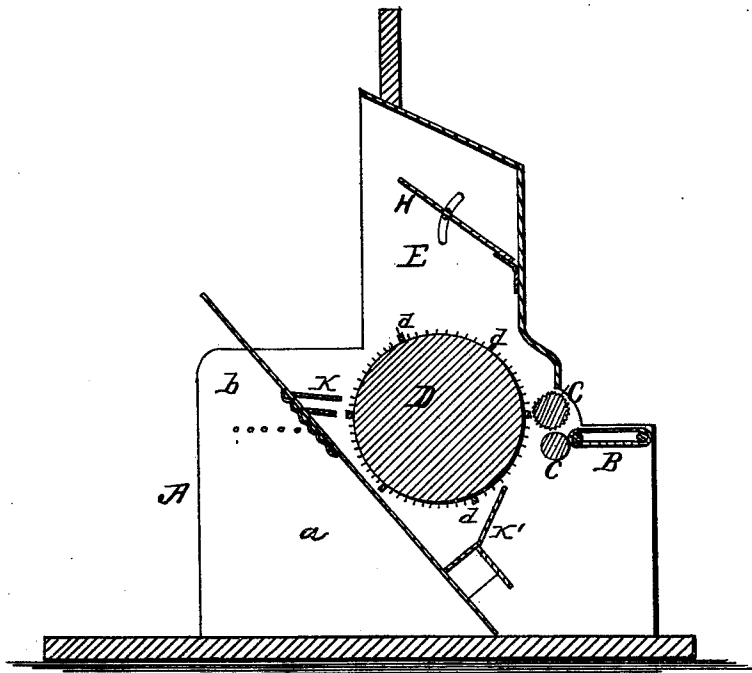


J. A. SOUTHMAYD.  
Animal Fiber.

No. 213,949.

Patented April 1, 1879.



Witnesses;  
*Chas. D. Gill*  
*How. M. Riley.*

Inventor;  
*John A. Southmayd*  
By his atty,  
*Cox and Cox.*

# UNITED STATES PATENT OFFICE.

JOHN A. SOUTHMAYD, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO WILLIAM S. ARCHER, OF YONKERS, NEW YORK.

## IMPROVEMENT IN ANIMAL-FIBERS.

Specification forming part of Letters Patent No. **213,949**, dated April 1, 1879; application filed March 1, 1879.

*To all whom it may concern:*

Be it known that I, JOHN A. SOUTHMAYD of Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Animal-Fibers, of which the following is a specification, reference being had to the accompanying drawing.

The invention relates to an improved animal-fiber.

It consists, essentially, in the production of a fiber from the fur or inner coat of the bison. The hide of the bison is covered with a matting of coarse hair, beneath which is found a layer of fur or material analogous thereto.

It has been customary heretofore to remove the hair and fur in a mass by the methods usually practiced in the treatment of hides preparatory to their manufacture into leather; and the product has been marketed for use for the purposes for which the cheapest kinds of hair and similar materials are employed.

No attempt has been made, as far as I am aware, to separate the fur from the hair, nor has it been known that the fur, if separated, is of any value as a felt or otherwise.

I have discovered that it is practicable to successfully effect a separation of the fur and hair, and that by proper treatment and manipulation a fiber can be produced from the fur which possesses very valuable and useful qualities, many of the most important qualities of the fibers of the best furs and wools now in use. It is probable, indeed, that in some respects the article I produce is superior to any known fiber, possessing, as it does, characteristic qualities that make it of the greatest commercial value.

My experience leads me to believe that it may be successfully employed, either alone or in combination with other fibers, both animal and vegetable, in the fabrication of a large proportion of the articles in which fur or wool is used, and especially those which involve the use of a felt.

As hereinbefore stated, the hair and fur which form the coating of the hide of the bison are removed from the hide without any attempt at separation, and in that condition are sold as an article of commerce, being utilized in the arts for purposes for which the

cheapest descriptions of hair are used. I obtain the combined hair and fur in this condition, if necessary, removing it from the hide in any convenient way. I then remove the locks or wisps of coarse hair, which may be done by hand, the locks or wisps being of such a nature that they can be readily separated. These locks or wisps of coarse hair I discard as of inconsiderable consequence. The remaining elements, the fur and finer hair, which are very intimately interwoven and interlocked, I thoroughly wash and dry in any convenient manner, the bath and means of drying being substantially the same as are used in the treatment of wool. The washing and drying having been effected, the material is ready to be subjected to the more important steps in its reduction. These are effected by means of a picker, the construction of which is shown in the drawing, forming a part of this application, in which—

A denotes the frame of the machine, at the front end of which are the feed-apron B and feed-rolls C, arranged, in respect to the picker D, in the customary way, the rolls and picker being actuated in any convenient manner.

The picker D is of usual construction, provided, by preference, with fans *d* to assist in the production of the currents of air utilized in the operation of the machine.

The sides of the frame *a a* are inclosed to prevent the entrance or escape of air, and are carried up to form the extensions *b b*, the object of the extensions being to assist in the direction of the working currents.

Above the picker is the hood or bonnet E, the shape and relative size and proportions of which are shown with sufficient accuracy in the drawing. Within the hood or bonnet E is the damper or screen H, which consists of a flat piece of material, hinged to the rear side of the hood, or otherwise arranged, so that its outer edge can be elevated or depressed, and secured in place at any desired angle.

The chief function of the damper is to control the current created by the picker, which is accomplished by raising or lowering the outer edge, its elevation having the effect of increasing, and its depression the effect of decreasing, the current. Its use and adjustment

will be determined by circumstances and by preliminary operations of the machine.

K K' are stops which serve to catch the hair and throw it or cause it to fall upon the floor in proximity to the front part of the machine, from whence it is removed by hand.

In practice, the picker is rotated with great velocity—about, say, thirty-five hundred revolutions a minute—turning toward the feed-rolls.

The effect of the actuation of the picker, the frame being inclosed as it is, will be to create a strong current of air both above and below it. The action of the picker in loosening the heavier and coarser hair from the lighter fur is almost instantaneous. As a consequence, the superior specific gravity of the heavier hair causes it at once to move farther from the teeth of the picker than the lighter fur, which will be more positively affected. The two will be so nearly divorced from each other that the weight of the hair, aided by the current below the picker, will cause it to travel sufficiently far from the picker to cause it to catch upon the stops, while the fur is moved by the picker until it is acted upon by the current above the picker, which carries it away from and clear of the machine in a different direction. To catch the hair, the main stop is placed at a point below that where the picker receives the stock, being so located and adjusted as to arrest the progress of the hair and cause it to fall to the floor. Other stops in other places, and nearer to the picker, adjusted upon the same theory, and to catch such hair as may pass the main stop, are also provided. The fur being lighter elings to or follows the picker until it is thrown by the current above the picker into the blow-room beyond the influence of the machine.

I particularly recommend that the greatest care be exercised in the adjustment of the stops and in the employment of such as are

adapted to the particular service to be performed.

The construction described is suited to the separation of average material of the usual size; but it will not always be practicable to make use of it in the exact form I have shown and described. This form will be modified by the skilled operator without difficulty, and thus made to perform its offices under any conditions that can be foreseen.

It will also be expedient to wash the stock, and generally to observe the steps which are customary in the preparation of wool or fur for the picker.

The fiber thus produced may be combined with other fibers, both animal and vegetable, and utilized in the arts in many ways.

I am aware that machines of different kinds have been employed for separating furs and wool, such as are illustrated in the English patents of Barker and Harris, No. 5,474 of 1821, for "machinery for clearing furs and wool from kemps and hairs," and that of Birch and Bradbury, No. 2,106 of 1857, for "apparatus for clearing and mixing hatters' furs."

I do not claim these machines, or the fibers they have been employed to separate.

I do not limit my claim to the specific method of production I have described; but

I claim as my invention and discovery—

A fiber produced from the fur of the bison, substantially as set forth.

In testimony that I claim the foregoing improvement in animal-fiber, as above described, I have hereunto set my hand this 27th day of February, 1879.

JOHN A. SOUTHMAYD.

Witnesses:

WM. BRO. SMITH,  
CHAS. C. GILL.