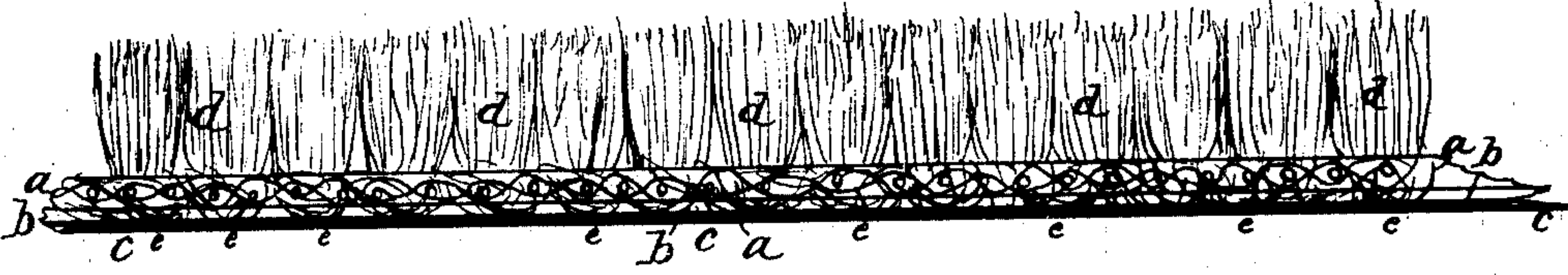


No. 28,484.

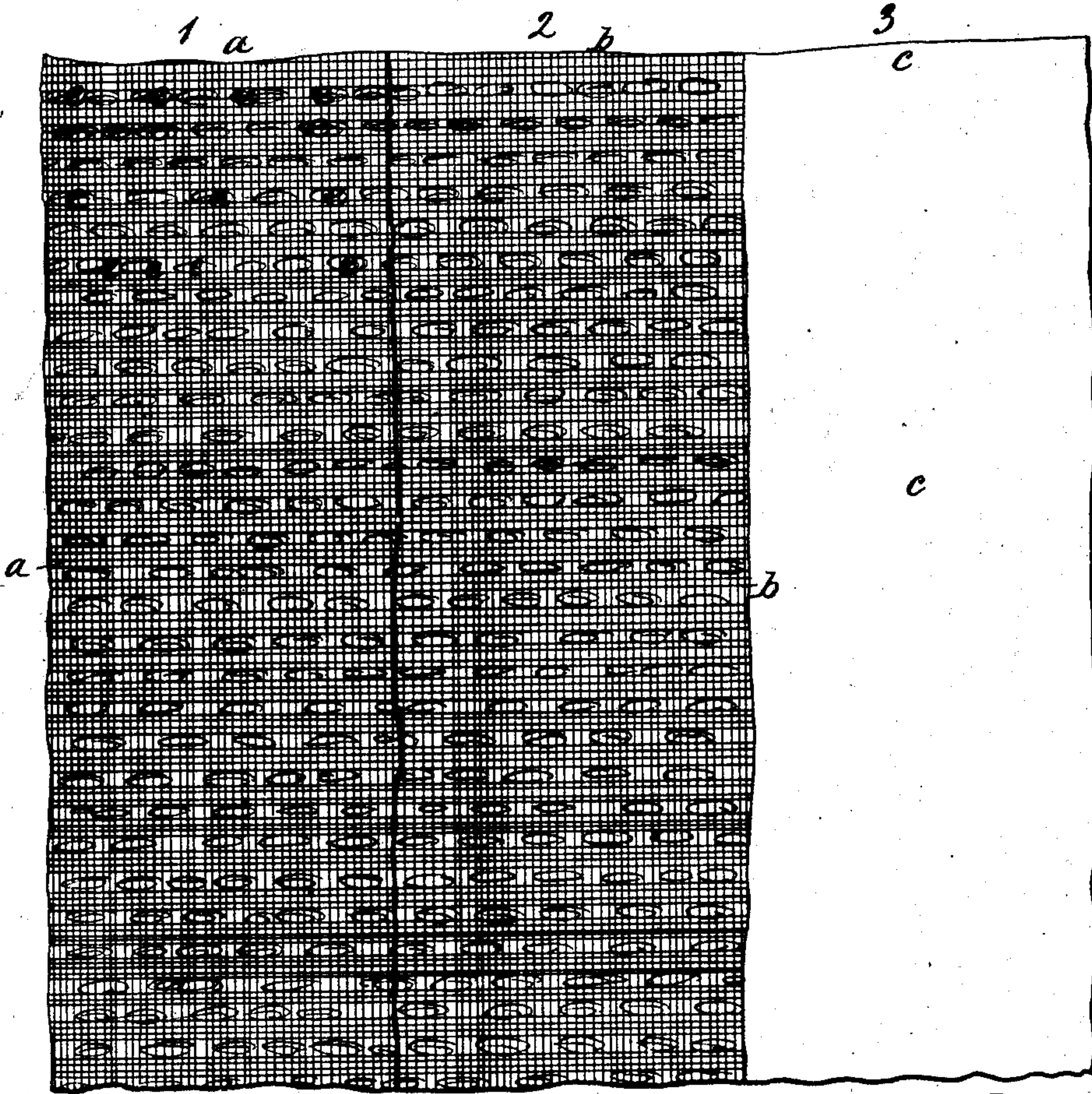
PATENTED MAY 29, 1860.

N. HILL.  
PILE FABRIC.

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*J. S. Allie.*  
*J. P. Parham.*

*Inventor.*

*Noble Hill*  
*By his Attorney*  
*J. Fraser.*



# UNITED STATES PATENT OFFICE.

NOBLE HILL, OF CATON, NEW YORK.

## MANUFACTURE OF PILE FABRICS.

Specification of Letters Patent No. 28,484, dated May 29, 1860.

*To all whom it may concern:*

Be it known that I, NOBLE HILL, of Caton, in the county of Steuben and State of New York, have invented a new and useful Improvement in Pile Fabrics; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a section or edge view of the web and pile. Fig. 2 is a representation of the back of the fabric, showing it in three stages of the process of manufacture; first, after weaving; second, with the elastic varnish applied to the back; third, with the lining applied to the varnish.

Similar letters designate corresponding parts in both of the figures.

My invention consists of a fabric in which a pile composed either of wool, hair, fur, or other animal or vegetable fiber of suitable quality, is interwoven with a web of cloth as hereinafter described, and treated on the back of the material so combined with one or more coats of elastic gum or varnish for the purpose of securing the pile to the web, and of rendering the fabric waterproof, adapting it to be used as rugs, riding robes, blankets, and for external wearing apparel, etc.

The process of manufacture is as follows: As the web (which may be made of coarse cotton or linen woven plain in any ordinary loom) is being woven the locks of hair, wool, or other material for the pile, are inserted at short intervals so as to leave both ends upon the upper surface, and of about an equal length, while the middle portion of each lies under two or three of the upper threads of the warp, and parallel with the woof. The locks should be nearly uniform in size, and are introduced while the shuttle is stopped, in a line from selvage to selvage, when the woof is resumed again, and after a few threads have been laid, the number of which is more or less according to the size of the woof-yarn and the purpose for which the fabric is designed, the pile is again inserted as before. By using fibers of different colors tasteful and ornamental effects may be produced by the manner of combining them, which may be varied to almost any style of pattern.

When taken from the loom the pile is trimmed to an even surface, and a coat of elastic varnish is applied to the back of the web. This enters all the interstices, closing them with a film which excludes water, and in addition is particularly designed to secure the tufts of pile from being pulled or drawn out from wear when in use. The varnish being applied hot or thin insinuates itself between the fibers which compose the pile and they become glued or cemented to those threads of the warp which overlie the tufts on the back, where they are interwoven with the web. In this condition when the varnish is dry it is impossible for the tufts to become removed by ordinary means, which renders the fabric as durable as the web which is its foundation, or as furs on their natural skin, for, as the pile does not draw out, it endures until each individual fiber is worn away.

Any varnish of suitably elastic qualities when dry may be used; india rubber, seed-lac, softened with pitch, or any of the elastic and adhesive gums which are not affected by moisture, answer the purpose.

A lining of cloth, leather, oil-cloth, india rubber cloth, silk, etc., etc., may be applied while the varnish is soft, and it will adhere sufficiently to be retained when the varnish has dried, and gives an agreeable finish to the back, as well as renders it warmer and more durable, and conceals the varnish.

As represented in the drawings, *a* is the web, *d* the pile, *e* that portion thereof which is combined with the warp; *b* is the varnish, and *c* is the lining.

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

The new article of manufacture herein described, constituting a fabric composed of wool, hair, or other fibers, interwoven with a web of cloth, and treated with one or more coats of elastic varnish, with an exterior lining attached thereto, substantially in the manner and for the purpose shown and described.

NOBLE HILL.

Witnesses:

E. A. JEFFERY,  
WM. E. ROGERS.