

No. 709,621.

Patented Sept. 23, 1902.

E. K. WARREN & J. H. HOLDEN.

WOVEN FEATHER FABRIC.

(Application filed Nov. 21, 1899.)

(No Model.)



Fig. 1

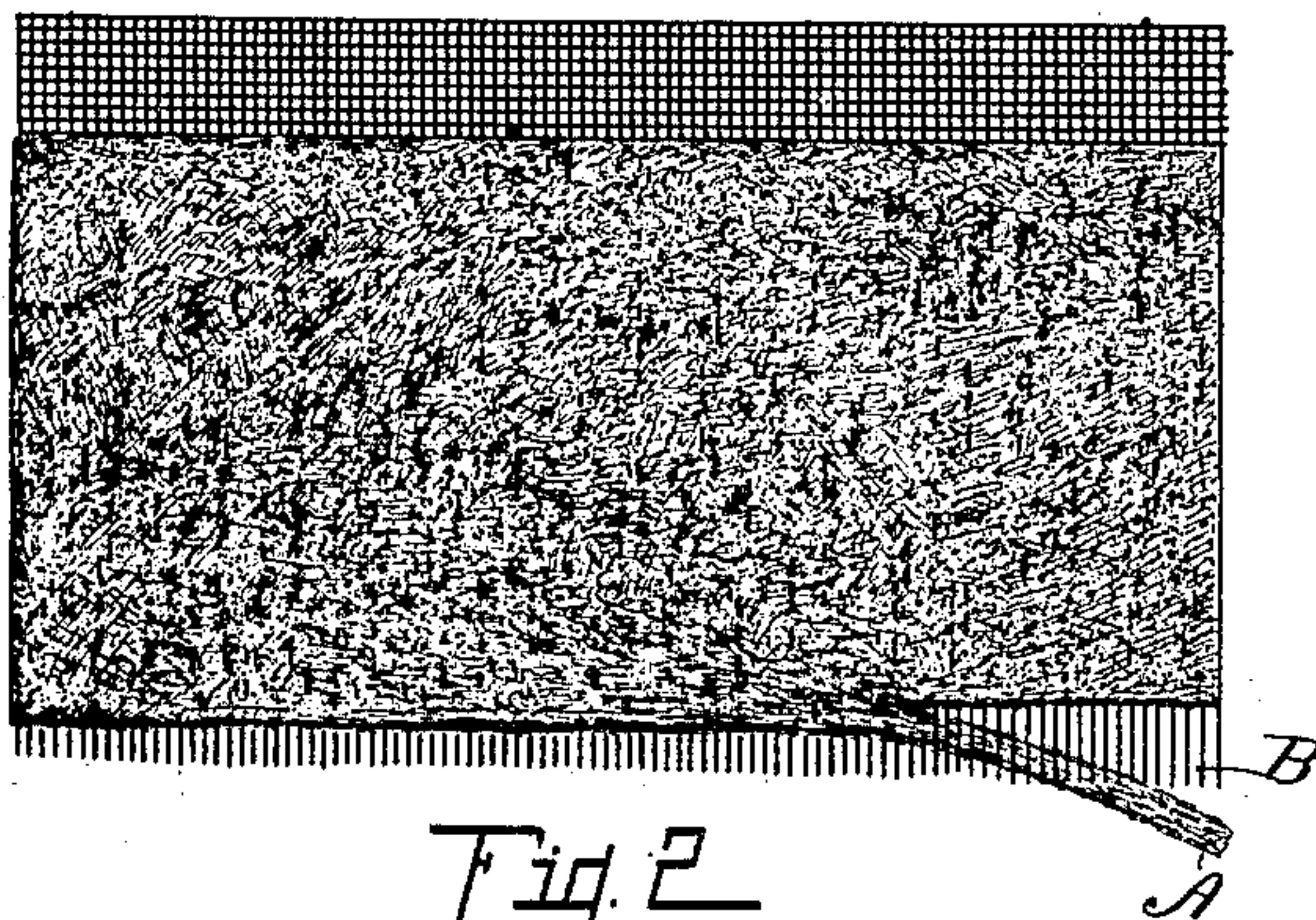


Fig. 2



Fig. 3

Witnesses:

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Att'y.

UNITED STATES PATENT OFFICE.

EDWARD K. WARREN AND JONAS H. HOLDEN, OF THREEOAKS, MICHIGAN.

WOVEN FEATHER FABRIC.

SPECIFICATION forming part of Letters Patent No. 709,621, dated September 23, 1902.

Application filed November 21, 1899. Serial No. 737,829. (No specimens.)

To all whom it may concern:

Be it known that we, EDWARD K. WARREN and JONAS H. HOLDEN, citizens of the United States, residing at the city of Threeoaks, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Woven Feather Fabrics, of which the following is a specification.

This invention relates to improvements in fabrics, particularly to improvements in woven feather fabrics.

Until the present time there has never been any practical means or methods of utilizing the plumage of fowls in the practical production of a fabric in which such material forms part of the fiber or body of the fabric.

The object of this invention is to provide a fabric in which plumage or down is utilized in a practical and satisfactory manner.

Further minor objects will appear in the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in this specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying our invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a strand made up for use in the production of our improved fabric. Fig. 2 is an illustration of the fabric itself. Fig. 3 is an edge view of the fabric.

In the drawings similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A is a strand made up of down or plumage from which the mid-ribs of the feathers have been removed. This strand is formed by any suitable felting process which entangles the down and pieces of feathers which are comparatively short securely together, when a strip is cut off and forms the strand. The strand is preferably used as filling, though when carefully and thoroughly made it can be used either as warp or weft. This is woven into fabric as a filling or is utilized as a warp, as desired. We find that the fabric is practically best and most even when the strand is used as a weft and a fine warp is used, which allows the material to be well beaten together. It then forms a practically continuous fabric, which is substantially water-

proof, very light and warm, and when constructed with the strands well formed very durable. It is well adapted for use as clothing in cold climates, for overcoats, for bed-covers, and makes most excellent horse-blankets. When properly constructed, it is also adapted for almost any position where woolen fabrics are desirable. Owing to its very light weight it is adapted very well for use as a padding wherever the same may be required, and is, owing to its lightness, well adapted for use as interlinings in garments required to be made thick or very warm.

We have described the strand as formed specifically by felting. While we find this the best, we are aware that the strand can be formed in various ways and wish it to be understood that we desire to claim in this connection a strand made up of down or plumage closely compacted together and also a strand made up specifically by felting and a fabric made of strands of the material here described.

We desire to state that we are aware that feathers have been incorporated into fabrics; but the aim heretofore has been to produce an ornamental effect with the feathers or to produce a pile fabric or fabric having a nap with the feathers. We believe that we are the first to incorporate feathers into the body or strands of material, so that they comprise substantially the material part of the strand.

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

1. A fabric made up of strands formed of down or plumage of feathers closely compacted together.

2. A fabric containing in its warp or weft, strands made up of down and plumage of feathers felted together.

3. A strand for use in making fabrics formed out of feathers suitably collected and closely compacted together.

4. A strand for use in making fabrics formed out of feathers felted together.

In witness whereof we have hereunto set our hands and seals in the presence of two witnesses.

EDWARD K. WARREN. [L. S.]
JONAS H. HOLDEN. [L. S.]

Witnesses:

WM. C. HALL,
DELLA C. WARREN.