

A. PETERSEN.  
WOVEN TUBULAR FABRIC.  
APPLICATION FILED MAY 8, 1908.

955,541.

Patented Apr. 19, 1910.

Fig. 1.

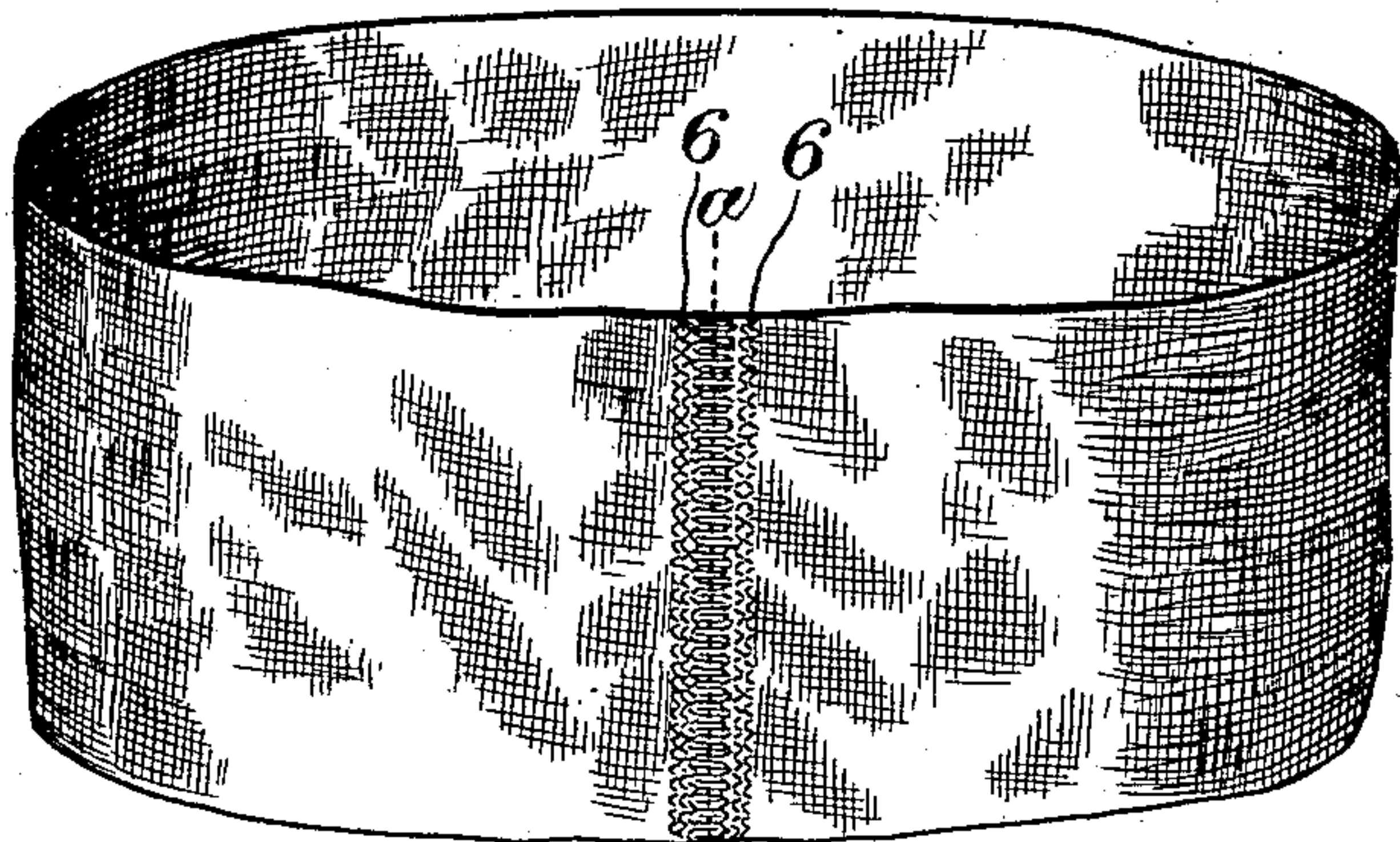


Fig. 2.

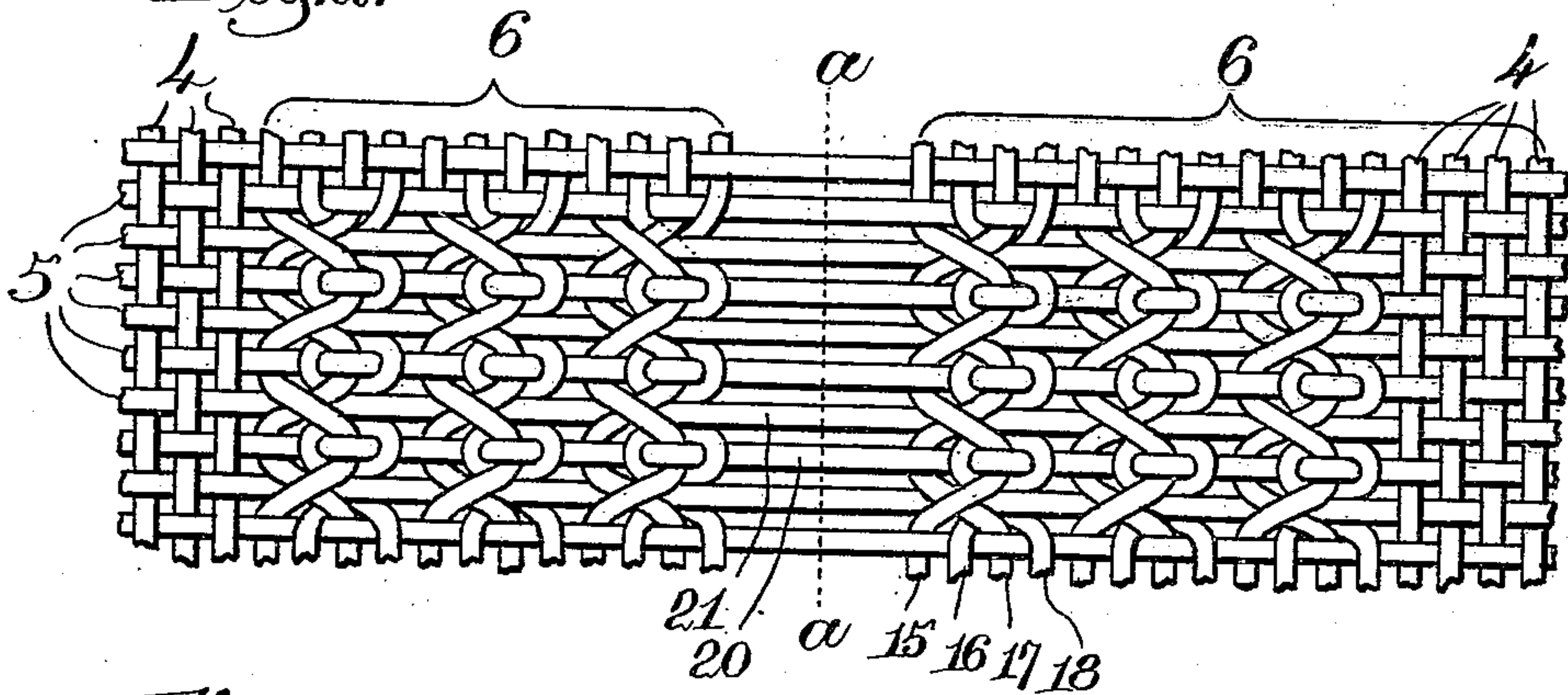
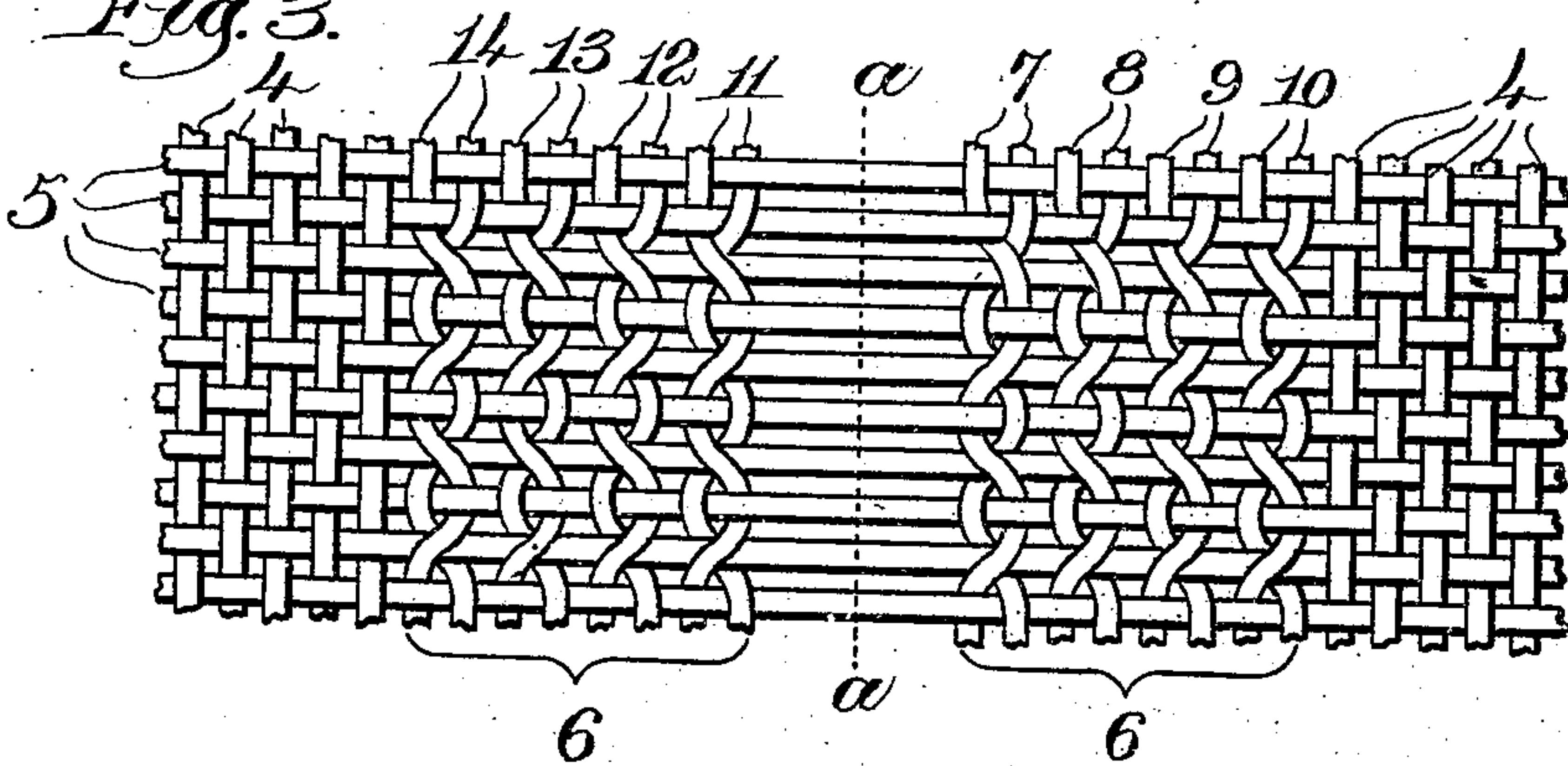


Fig. 3.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## WOVEN TUBULAR FABRIC.

955,541.

Specification of Letters Patent.

Patented Apr. 19, 1910.

Application filed May 8, 1908. Serial No. 431,565.

*To all whom it may concern:*

Be it known that I, ANKER PETERSEN, a subject of the King of Denmark, residing at Chelsea, county of Suffolk, and State of Massachusetts, have invented an Improvement in Woven Tubular Fabrics, of which the following description, in connection with the accompanying drawing, is a specification, like numerals on the drawing representing like parts.

This invention relates to tubular woven fabrics, such as are made on circular looms, and the object of the invention is to provide such a fabric with one or more selvage portions extending longitudinally thereof so that the fabric in tubular form may be cut adjacent said selvage portion or portions to make a straight fabric with a selvage edge. If such a tubular fabric is made with two adjacent selvage portions and the tubular fabric is then cut between the selvage portions a straight fabric with two selvage edges will be produced. In this way a very wide piece of fabric can be readily woven with two selvage edges, for a tubular fabric having a diameter of two feet, for instance, is over six feet in circumference, and if a tubular fabric of this size is provided with the two selvage portions and is then cut between said selvage portions a straight fabric somewhat over six feet in width is produced with a selvage at each edge.

I will first describe some embodiments of my invention and then point out the novel features thereof in the appended claims.

In the drawings, Figure 1 is a perspective view of a portion of a short length of fabric woven in tubular form and having my improvements applied thereto; Fig. 2 is an enlarged view showing one way of weaving or forming the selvage portions; Fig. 3 is a similar view showing another way of forming these selvage portions.

In the drawings, 3 designates a piece of fabric woven in tubular form, such as would be produced in an ordinary circular loom, the fabric being made up of warps which extend longitudinally of the tubular fabric and wefts 5 which extend around the fabric.

My invention consists in forming in the fabric during the process of weaving one or more selvage portions 6 which extend longitudinally of the fabric.

In the drawings I have shown two such

selvage portions situated adjacent each other so that when the fabric is made with these two adjacent but separate selvage portions, said fabric may be cut between the selvage portions on the line *a—*a**, Fig. 1, thereby to produce a straight fabric having two selvage edges.

It is within my invention to make these selvage portions 6 in various ways and the invention is not limited to any particular manner of interweaving the warps and wefts to form the selvage portion.

In the drawings I have illustrated two different ways of producing this result, these being sufficient to illustrate the principle of the invention.

In Fig. 3 these selvage portions are produced by crossing the warps forming the selvage portions as they are interwoven with the wefts thus producing a cross weaving at the selvage portions.

Referring now to Fig. 3 the selvage portions are provided by crossing the warps of adjacent pairs of warps between each pick of weft 5. For instance, the warps forming the selvage portion are divided into pairs 7, 7, 8, 8, 9, 9, 10, 10, 11, 11 etc., and each pair of warps is crossed between any two picks of weft 5, this crossing being done by suitable mechanism as the weaving progresses. The warp threads are omitted between the two selvage portions 6 so that the wefts 5 lie in straight lines between said selvage portions. The crossing of the warps in this way acts to firmly bind the wefts into the fabric so that if the fabric is cut on the line *a—*a**, the selvage portions 6 become selvage edges into which the ends of the weft are so thoroughly bound that they will not pull out.

In Fig. 2 I have illustrated a manner of interweaving the warps and wefts of the selvage portions which still more securely binds them in place. In this embodiment the warps of each selvage portion are divided into groups of fours, each group comprising two pairs and the warps of one pair of each group are made to cross those of the other pair of the group, the adjacent warp threads being laid in different sheds. For instance, the warp threads 15, 16, 17 and 18 constitute one group which is divided into two pairs 15, 16 and 17, 18. The pair of warps 15 and 16 cross the warps 17 and 18, the crossing of pairs taking place between



alternate picks of weft. The two warps of any pair, however, are always in different sheds so that the weft which passes over one warp thread of a pair will always pass under the other warp thread of said pair. For instance, take the particular weft thread marked 20, and it will be seen that it passes over the warp thread 17, under the warp thread 18, over the warp thread 15, under the warp thread 16, etc., while the adjacent weft thread marked 21 passes under the warp threads 15 and 17 and over the warp threads 16 and 18.

The selvage portions may be made of any width desired, and by making them as shown in Fig. 2, the weft threads are so thoroughly bound into the warp threads at the selvage portions that if the fabric is cut between the selvage portions on the line *a-a*, the weft threads cannot pull out of the warp threads, nor can the warp threads unravel. The selvage portions will, therefore, constitute selvage edges for the cut fabric.

In Fig. 2 the two pairs of warp threads 15, 16 and 17, 18 are shown as each equally deflected from a straight line in crossing the other pair, but in practice this crossing of the threads would probably be done by operating the warp threads of one pair by doup heddles which are made to cross the warp threads of the other pair alternately,

in which case one pair of warp threads would lie comparatively straight in the fabric and the other pair would be carried across the first-named pair first in one direction and then the other as usual in cross weaving.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A tubular woven fabric having longitudinally-extending warp threads and a weft thread that extends continuously therearound in a spiral course and also having two adjacent selvage portions that are connected by the weft thread.

2. A tubular woven fabric having longitudinally-extending warp threads and a weft thread that extends continuously therearound in a spiral course and also having two adjacent selvage portions that are connected by the weft thread, each selvage portion being formed of warp threads that cross each other.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ANKER PETERSEN.

Witnesses:

LOUIS C. SMITH,

THOMAS J. DRUMMOND.