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A. W. HARRIS

SEAM FOR WOVEN WIRE FABRICS

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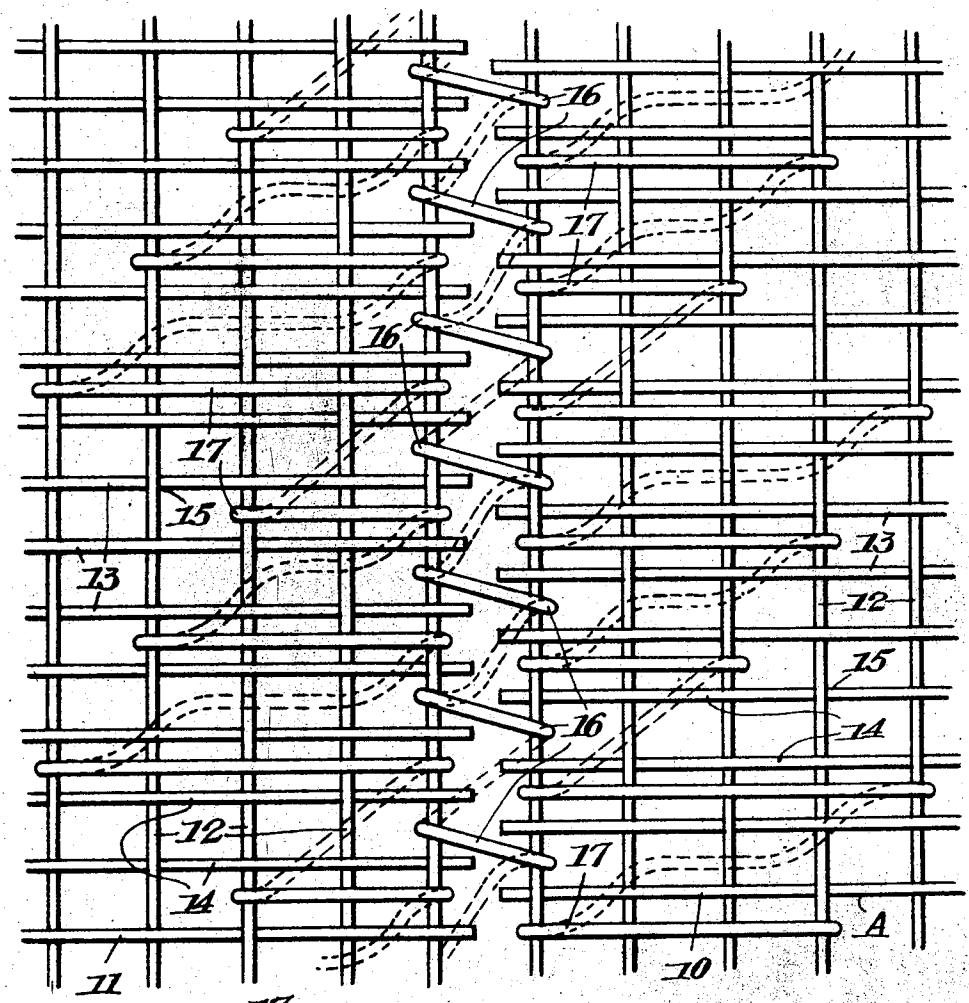


Fig. 1.

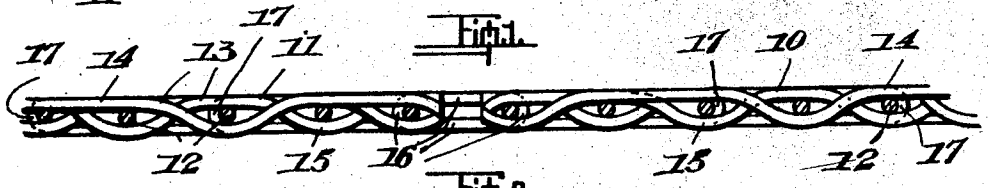


Fig. 2.

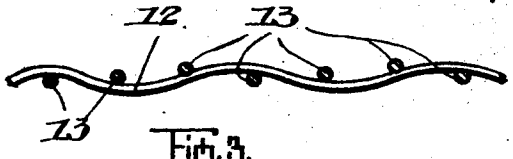


Fig. 3.

INVENTOR
ALBERT. W. HARRIS.

BY Fitzgerald & Fitzgerald
ATTYS.

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ALBERT WILLIAM HARRIS, OF GLENS FALLS, NEW YORK.

SEAM FOR WOVEN-WIRE FABRICS.

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To all whom it may concern:

Be it known that I, ALBERT WILLIAM HARRIS, a citizen of the United States of America, and a resident of Glens Falls, in the State of New York, United States of America, have invented certain new and useful Improvements in Seams for Woven-Wire Fabrics, of which the following is a specification.

This invention relates to improvements in seams for woven wire fabrics, such as are used as endless woven-wire belts used on paper-making machines; and the objects of the invention are to provide a durable joint in which the seam may be as efficient as possible without protruding wires and of a character to be satisfactory during the operation of the belt.

Further objects are to improve and simplify the construction of the seam to better adapt it to perform the functions required of it.

And it consists essentially of the improved construction hereinafter described in detail in the accompanying specification and drawings and more particularly pointed out in the claims.

In the drawings:

Figure 1 is a plan view of an embodiment of the invention drawn to an enlarged scale;

Fig. 2 is a side view showing the ends of the lay wires; and

Fig. 3 is a cross-section of a portion of the fabric, showing the ends of the warp wires.

In the drawings, like characters of reference indicate corresponding parts in all the figures.

Referring to the drawings:

A indicates the woven wire fabric, and 10 and 11 are the two sections which are to be joined by the seam. The fabric itself comprises a plurality of parallel lay wires 12 and a plurality of longitudinally extending and parallel warp wires 13. The fabric illustrated in the present embodiment is of special and well-known design inasmuch as the warp wires are provided with long knuckles 14 on one side of the fabric, and with short knuckles 15 on the opposite side of the fabric.

In the present embodiment the ends to be joined of the sections 10 and 11 are cut adjacent to a lay wire, so that there will be a lay wire on the opposite sections adjacent to the opening of the seam. The hinged seam is made by a stitching wire 16 which connects the end lay wires of adjacent sections.

These lay wires are themselves held in position by whipping wires 17, one each side of the seam opening. The stitches of the whipping wires shown as an example are arranged in a repeating pattern in the combination of lengths, of 3, 4 and 5; that is to say, the first stitch covers three lay wires; the second stitch covers four lay wires; and the third stitch covers five lay wires. In this way, a very firm anchorage is provided for the end lay wire.

The whipping wires 17 are so arranged as generally not to pass just over a knuckle or crossing of the main wires 12 and 13, as indicated by dotted lines in Fig. 1, so as to avoid bulges at these points. On the side next the paper machine, the whipping wires are always approximately perpendicular to the lay wires, while on the side of the wire on which the paper is made, the whipping wires are diagonally inclined to the lay wires.

It will be observed that in addition to the knuckles on the warp wires, the lay wires themselves are slightly knuckled as shown in Fig. 3. By this arrangement protection is given to the stitching and whipping wires, the warp wire knuckles and lay wire knuckles preventing attrition of the stitching and whipping wires by the rolls, suction boxes, and other parts of the paper machine.

As shown in the drawings one complete sewing stitch is made to every two warp wires, but this proportion could be changed, if desired.

As many changes could be made in the above construction, and many widely different embodiments of my invention within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

Claims:

1. A seam for woven wire fabric wherein the weave comprises warp wires and lay wires, the warp wires having long knuckles on one side of the fabric and short knuckles on the other side of the fabric, having a whipping wire anchoring the lay wires at each side of the seam opening, the stitches of the whipping wires being of different

lengths to cover a gradually increasing number of lay wires and arranged in a repeating pattern, and a suitable stitching wire connecting the adjacent lay wires at the seam opening to form a hinged seam.

2. A seam for woven wire fabric wherein the weave comprises warp wires and lay wires, the warp wires having long knuckles on one side of the fabric and short knuckles on the other side of the fabric, having a single whipping wire anchoring the lay wires at each side of the seam opening, the stitches of the whipping wire being of different lengths, and a single stitching wire connecting the adjacent lay wires at the seam opening to form a hinged seam.

3. A seam for woven wire fabric, wherein the weave comprises warp wires and lay wires, the warp wires having long knuckles on one side of the fabric and short knuckles on the other side of the fabric, a whipping wire anchoring the lay wires at each side of the seam opening, the stitches of the whipping wires being of different lengths to cover a gradually increasing number of lay wires and being arranged in a repeating pattern, the stitches being arranged as generally not to pass just over the long knuckles of the fabric, and a suitable stitching wire connecting the adjacent lay wires at the seam opening to form a hinged seam.

4. A seam for woven wire fabric, wherein the weave comprises warp wires and lay wires, the warp wires having long knuckles on one side of the fabric and short knuckles on the other side of the fabric, a whipping wire anchoring the lay wires at each side of the seam opening, the stitches of the whipping wires being of different lengths to cover a gradually increasing number of lay wires and being arranged in a repeating pattern as generally not to pass just over the long knuckles of the fabric, and a suitble stitching wire connecting the adjacent lay wires at the seam opening to form a hinged seam, the said stitching wire extending at a lesser angle to the lay wires on the under side of the fabric than it does on the upper side of the fabric.

In witness whereof I have hereunto set my hand.

ALBERT WILLIAM HARRIS.