

A. B. WEISSENBORN.
SEAM FOR FOURDRINIER WIRES.

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932,361.

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Fig. 1.

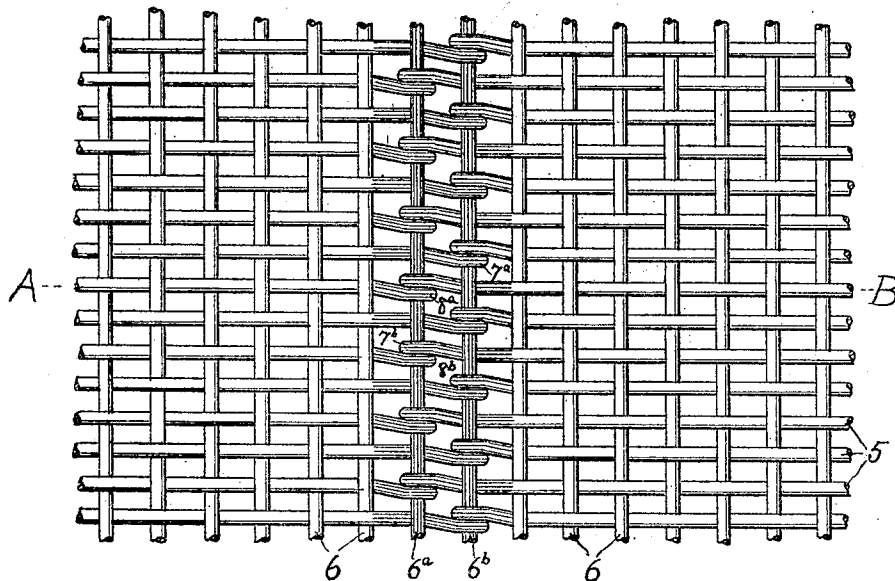
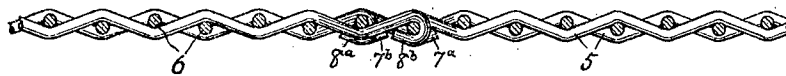


Fig. 2.



Witnesses.

W. H. Keeney

Anna F. Schmidtbauer

Inventor.

Albert B. Weissenborn

By Benedict, Morrell & Caldwell,

Attorneys.

UNITED STATES PATENT OFFICE.

ALBERT B. WEISSENBORN, OF APPLETON, WISCONSIN.

SEAM FOR FOURDRINIER WIRES.

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To all whom it may concern:

Be it known that I, ALBERT B. WEISSENBORN, residing in Appleton, in the county of Outagamie and State of Wisconsin, have invented new and useful Improvements in Seams for Fourdrinier Wires, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention has for its object to provide a new seam for Fourdrinier wires formed by the ends of the wires alone, without the use of a separate stitching wire.

Another object of this invention is to provide a seam for Fourdrinier wires which will be strong and durable and which will not materially close the openings of the fabric at the seam.

Another object of this invention is to improve upon details of construction of a seam for Fourdrinier wires.

With the above and other objects in view the invention consists in the seam for Fourdrinier wires as herein claimed, and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in the different views; Figure 1 is a plan view of a portion of a seam of a Fourdrinier wire formed in accordance with this invention; and, Fig. 2 is a transverse sectional view thereof.

In these drawings, 5 represents the warp wires of the Fourdrinier wire fabric and 6 the weft wires thereof. The ends of the wire fabric, instead of being united by stitching them together with a wire thread running back and forth across the seam and passing through the openings of the fabric as usual, are united by means of the warp wires of each end engaging the weft wires of the other end. In brief, this is accomplished by bending the alternate warp wires of each end of the fabric around the last weft wire of that end, with the intermediate warp wires extending beyond said last weft wire and engaging the end weft wire of the other end of the fabric alongside of the other end of the same warp wire which is in engagement with that end wire. Thus each warp wire has one end bent around the end weft wire at one end of the fabric and the other end extending beyond the end weft wire of the other end of the fabric and bent around the same end weft wire as the first mentioned end and alongside thereof. The two ends A and B of the wire

fabric are identical in construction, with the exception that the shorter warp wire ends of each end lie opposite the longer warp wire ends of the other, the two ends of each individual warp wire lying in the same straight line except where they bend around the same weft wire.

In constructing this seam, each end of the fabric is first cut along the line of one of the weft wires, which determines the original position of the longer warp wire ends. Then the first weft wire is drawn out and each alternate warp wire is cut off on the line of the weft wire so removed. Now the shorter ends of the warp wires are bent around the next weft wire, which is the end weft wire. The end weft wire of end A is designated 6^a, while the end weft wire of end B is designated 6^b, and likewise the longer ends of the warp wires are designated 7^a and 7^b and the shorter ends of the warp wires are designated 8^a and 8^b, according to whether they belong to the end A or the end B. In cutting the ends of the fabric and in drawing the weft wires as above mentioned, care has been taken to select a point at which the last crimp in the longer wire ends and the shorter wire ends of both ends of the fabric bend in the same direction, that is downwardly as shown in the drawings, so that as viewed in Fig. 1 none of the extremities of the shorter wire ends are to be seen, having been bent in the direction of their last crimp. In making the connection between the shorter wire ends and the end weft wires 6^a and 6^b, these wire ends are moved slightly along the end weft wire in one direction on end A and in the other direction on end B, the distance of offset being one half the diameter of the wires. Now, the two ends A and B are placed together with the ends of each warp wire opposite each other, or nearly so, and the two end weft wires 6^a and 6^b at a distance apart equal to the distance between the weft wires 6. The longer ends of the warp wires are bent slightly to one side, so as to lie close against the shorter ends of the same wires and are bent around the same end weft wires as their other ends, that is, the longer warp wire ends 7^a of the fabric end A are bent around the end weft wire 6^b of fabric end B, alongside of the shorter warp wire ends 8^b of fabric end B. The direction of bend of the ends of the warp wires in every instance being in the direction of the last crimp there-

of, the extremities of the longer ends are hidden from view in Fig. 1, as well as the extremities of the shorter ends. With the ends of the wires thus connected, the longitudinal strain on the warp wires is transferred through the seam without tending to bend the wires or strain the seam, because of the connection of the two ends of each warp wire with the same end weft wire at as near the same point as possible. Furthermore, this very strong and durable seam is formed without a material blocking of the mesh of the fabric at the seam. The thickness of the fabric naturally remains nearly the same at the seam as at other places, but after the seam is formed in the manner above set forth it is preferably passed between rollers to smooth it off, and in order to strengthen it and prevent the possibility of parts working loose the entire seam is subjected to a soldering operation, in which the solder is spread over all of the warp wire ends and the end wires 6^a and 6^b, so as to completely surround all of the joints of the seam, and is followed by a hot air blast to prevent the solder filling up the meshes of the fabric.

What I claim as my invention is:

1. A seam for Fourdrinier wires, wherein the ends of the warp wires are made alternately long and short, with the shorter warp wire ends of each end of the fabric connected to the end weft wire thereof, and the longer warp wire ends of the other end of the fabric being also connected to said end weft wire.

2. A seam for Fourdrinier wires, consisting of an end weft wire on each end of the fabric securely held in place by being engaged by some of the warp wires of that end of the fabric and constituting a connecting means for the warp wire ends of the other end of the fabric.

3. A Fourdrinier wire fabric, having warp and weft wires, the end weft wire of each end of the fabric being securely bound in place by having the ends of the alternate warp wires of that end of the fabric bent therearound, the intermediate warp wire ends of each end of the fabric extending beyond the end weft wire of that end of the fabric and being bent around the end weft wire of the other end of the fabric close to the first mentioned warp wire ends of said other end of the fabric.

4. A seam for Fourdrinier wires, comprising alternate longer and shorter warp wire ends on each end of the fabric, the shorter

warp wire ends being bent around the end weft wire of that end of the fabric and the longer warp wire ends being bent around the end weft wire of the other end of the fabric.

5. A seam for Fourdrinier wires, comprising alternate shorter and longer warp wire ends on each end of the fabric, and an end weft wire on each end of the fabric around which the shorter warp wire ends of that end of the fabric and the longer warp wire ends of the other end of the fabric are bent.

6. A seam for Fourdrinier wires, comprising alternate shorter and longer warp wire ends on each end of the fabric, and end weft wires on each end of the fabric spaced apart the distance between the weft wires of the fabric, the shorter warp wire ends of each end of the fabric being bent around each end weft wire of that end of the fabric and the longer warp wire ends of the other end of the fabric being also bent around said end weft wire close to the shorter warp wire ends, all of the bent warp wire ends having their extremities lying on the same face of the fabric.

7. A seam for Fourdrinier wires, comprising alternate shorter and longer warp wire ends on each end of the fabric, and end weft wires on each end of the fabric spaced apart the distance between the weft wires of the fabric, the shorter warp wire ends of each end of the fabric being bent around the end weft wire of that end of the fabric, and the longer warp wire ends of the other end of the fabric being also bent around said end weft wire close to the shorter warp wire ends, and a coating of solder applied to the warp wire ends and the end weft wires.

8. A seam for Fourdrinier wires, comprising alternate shorter and longer warp wire ends on each end of the fabric, and end weft wires on each end of the fabric spaced apart the distance between the weft wires of the fabric, the shorter warp wire ends of each end of the fabric being bent slightly to one side and around the end weft wire of that end of the fabric, and the longer warp wire ends of the other end of the fabric being bent slightly to the other side and around said end weft wire close to the shorter warp wire ends.

In testimony whereof, I affix my signature, in presence of two witnesses.

ALBERT B. WEISSENBORN.

Witnesses:

F. W. CLARK,
JOHN J. FISHER.