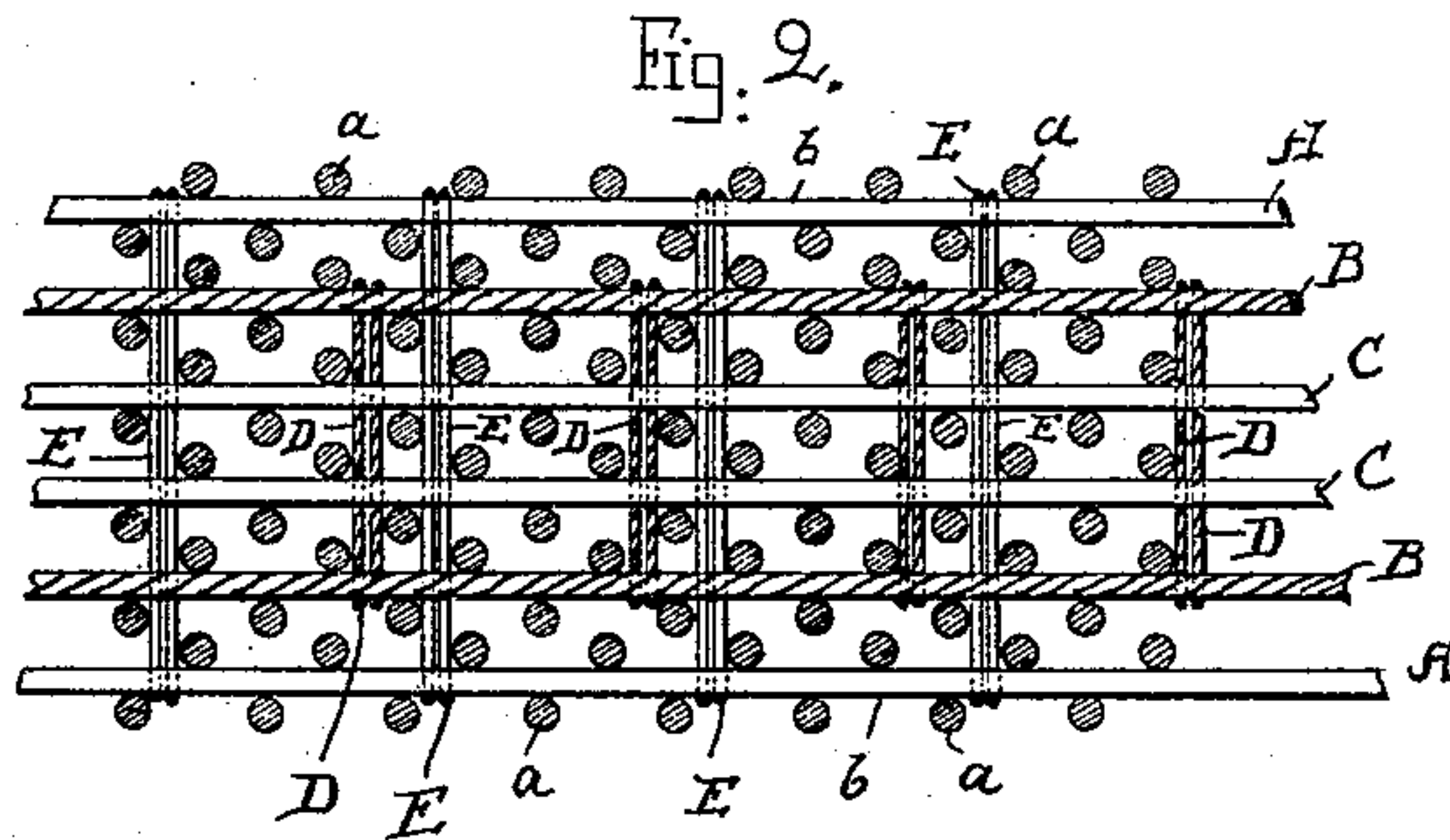
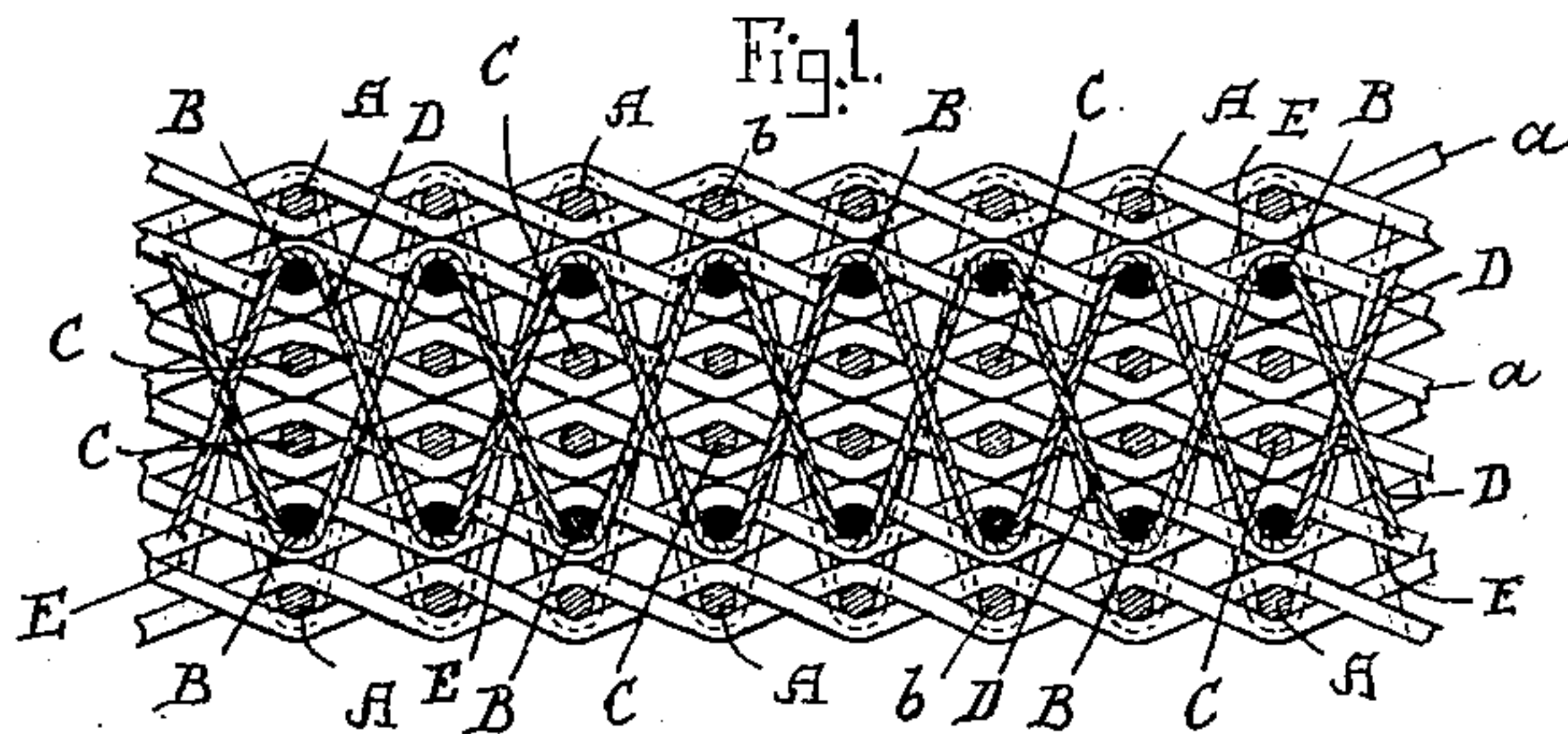


Specimens.)

J. OLDFIELD.  
WOVEN FABRIC FOR MACHINE BELTING.

No. 478,941.

Patented July 12, 1892.



Witnesses.

Winifred G. Kenner  
John J. Moore

Inventor.

John Oldfield  
by Edwin Planta  
attorney.



# UNITED STATES PATENT OFFICE.

JOHN OLDFIELD, OF MEDFORD, MASSACHUSETTS.

## WOVEN FABRIC FOR MACHINE-BELTING.

SPECIFICATION forming part of Letters Patent No. 478,941, dated July 12, 1892.

Application filed October 18, 1890. Serial No. 368,578. (Specimens.)

*To all whom it may concern:*

Be it known that I, JOHN OLDFIELD, a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Woven Fabrics for Machine-Belting, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to certain improvements on a patent granted to Joshua P. Maddox for "woven fabric for machine-belting," dated May 13, 1890, No. 427,700. In the specification of said patent is described and claimed a fabric having wire warps passing through central plies and binding them together, the strand of weft or filling over which said wire warps pass being of fibrous material. In practice it is found that the wire warps cut into and injure the said fibrous weft or filling, thus after a time rendering the belt incapable of sustaining the strain required. Now the object of this invention is to overcome this defect.

The invention consists in the employment of wire, wire cable, and wire covered with cotton or other fibrous material for the weft or filling over which the wire warps pass, by which the fabric is very materially strengthened and will last a much longer time than with fabric made according to the before-mentioned patent.

Referring to the accompanying drawings, Figure 1 represents a longitudinal section through the fabric. Fig. 2 is a cross-section of the same.

*a* represents the warp, and *b* the weft or filling.

The fabric is shown as being composed of six plies—two outer or facing plies A A, two intermediate plies having weft of wire, wire cable, wire covered with cotton or other fibrous material B B, and two central plies C C. The two central plies C C and the two intermediate plies are bound together by metallic warps D, and the facing-plies A A are bound to the body of the fabric, as shown, by fiber binding-warps E, which extend from one face to the other of the fabric. As thus woven, the fabric contains several plies, all of which have fibrous warp, and two of the inner plies have metallic weft and a series of metallic binder-warp engaging with the metallic weft of the

inner plies and binding them together. In this manner there is always a greater or less amount of fibrous material between the metallic weft of the two inner plies which will permit of a corresponding amount of elasticity or compression between them, even if it is only the fibrous warp of the two plies which come in contact when there are no other plies between these two plies; but if there are one or more plies between them composed wholly of fibrous material, as shown in the drawings, this elasticity or compressibility becomes very appreciable and important. As the metallic binding-warp passes alternately from the metallic weft of one ply to the metallic weft of the other ply any strain upon the metallic warp is communicated to the metallic weft of the two plies and from them it is distributed to and taken up by the fibrous material between the metallic-weft plies. At the same time, the exterior plies of the belting being composed wholly of fibrous material, the surface which comes in contact with the pulley is rendered more elastic, which will cause it to adhere to the pulley and prevent its slipping. This avoids the necessity of covering the wires with gutta-percha, india-rubber, and varnish, as had to be done where the belt was composed wholly of metal. It also renders the belting lighter than if composed wholly of metal and permits of its passing around small-sized pulleys without so much danger of the metallic warp being broken by the rapid change of direction as the strain upon the warp is taken up by the fibrous material composing the exterior of the belt, as well as the fibrous material between the metallic weft, over which the metallic warp passes.

Although I have shown and described a fabric of six plies, the number of said plies may be more or less, according to the size and strength of the belt required.

What I claim is—

1. A woven fabric for machine-belting and other like purposes, consisting of a series of plies, the warps of all of which are of fibrous material, and the wefts of two of the inner ones are metallic, and a series of metallic binder-warps passing alternately from the metallic weft of one of the inner plies to the metallic weft of the other inner ply, thereby binding the inner plies together, and the exterior plies

being bound to the inner plies by means of fibrous binding-warps passing from one face of the belt to the other, substantially as described.

- 5 2. A woven fabric for machine-belting and other like purposes, consisting of facing-plies, interior plies, and intermediate plies, the warps of all of which are of fibrous material and the wefts of the intermediate plies are of metal,  
10 and a series of metallic binder-warps passing alternately from the metallic weft of one of the intermediate plies to the metallic weft of the other intermediate ply, thereby binding

them together, and the facing-plies being bound to the inner plies by means of fibrous 15 binding-warps passing from one face of the belt to the other, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 14th day of 20 October, A. D. 1890.

JOHN OLDFIELD.

Witnesses:

SAMUEL F. TUTTS,  
HAROLD FOSS.