

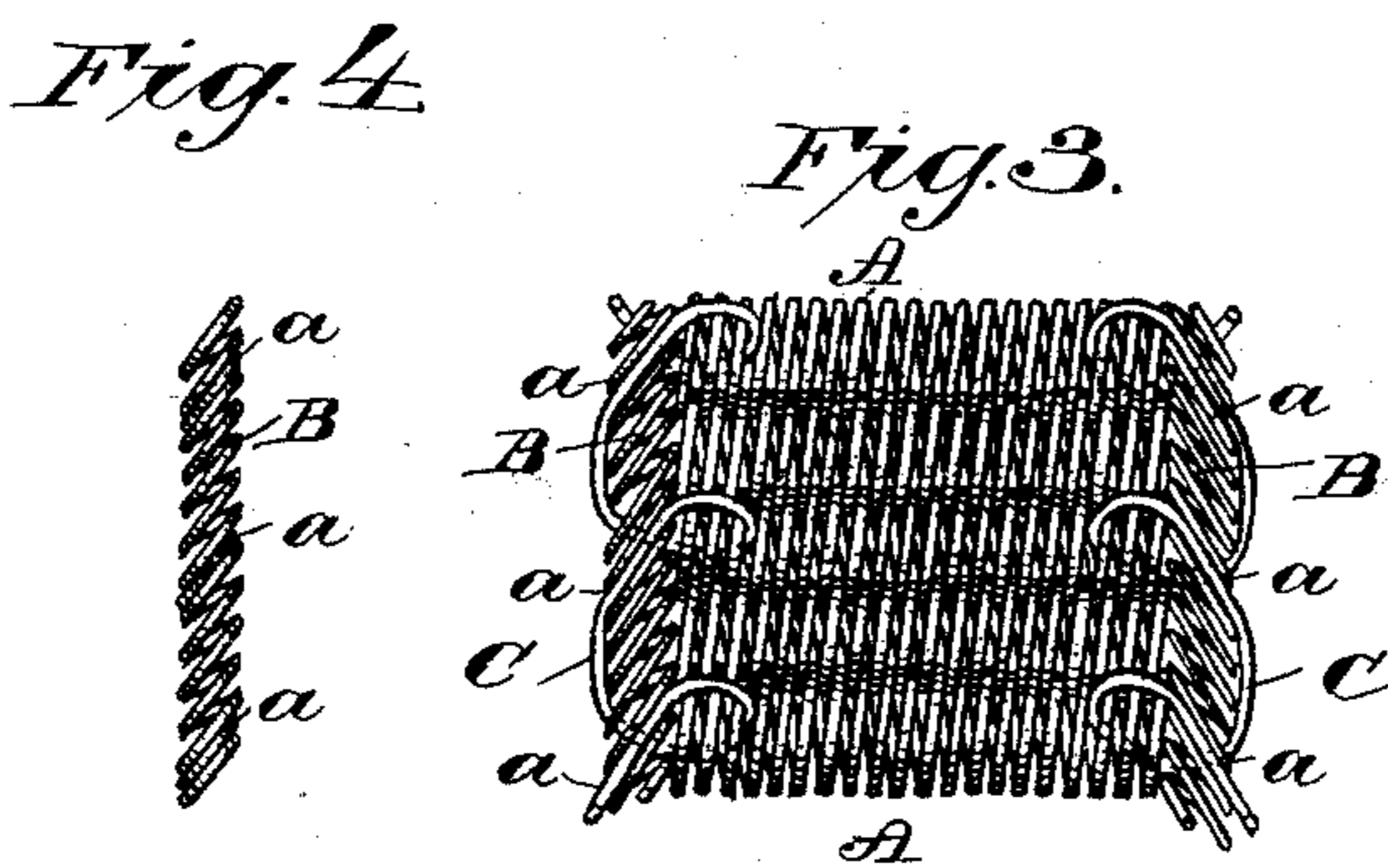
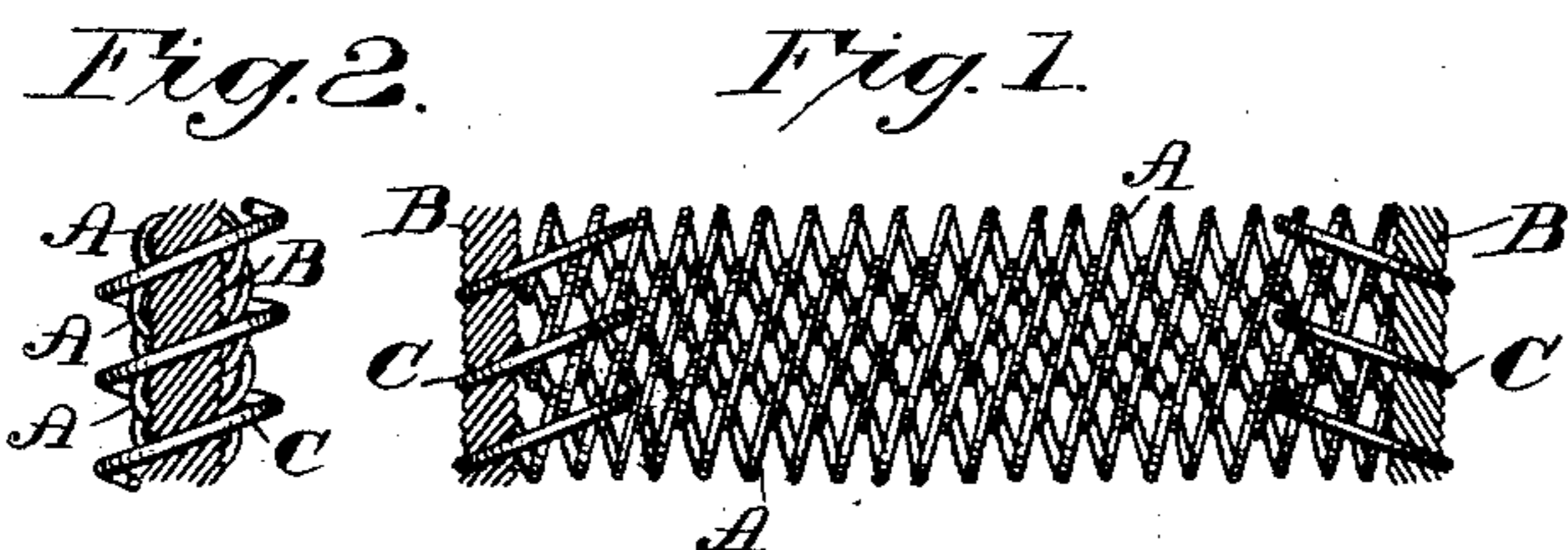
(No Model.)

J. E. EMERSON & T. MIDGLEY.

WIRE BELTING OR FABRIC.

No. 371,181.

Patented Oct. 11, 1887.



Witnesses

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JAMES E. EMERSON AND THOMAS MIDGLEY, OF BEAVER FALLS,
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WIRE BELTING OR FABRIC.

SPECIFICATION forming part of Letters Patent No. 371,181, dated October 11, 1887.

Application filed July 9, 1887. Serial No. 243,877. (No model.)

To all whom it may concern:

Be it known that we, JAMES E. EMERSON and THOMAS MIDGLEY, citizens of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Wire Belting or Fabric; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wire belting or fabric, and has for its object an improvement on our former article, shown in Patents Nos. 362,576 and 362,577, bearing date of May 10, 1887.

In the further development of our invention we have discovered that wire belting and wire cloth or fabric can be greatly improved by inserting a core or body of elastic material in the coil, which engages with the ends of the transverse sections. This core protects the ends of the coils of the transverse sections and prevents their protruding in fabric or cloth, and when rolled down for belting it forms a superior working-edge for the belt. We have also discovered that it is very important that the belt should be of uniform thickness throughout its entire width. To accomplish this result, we have adopted right and left longitudinal coils on the edges of the article, and also right and left coils of the metallic core inclosed by the longitudinal coils. In wire cloth or fabric the right and left longitudinal coils add greatly to the appearance of the article, as they make both edges look alike, and in belting after the coils have been rolled or flattened both sides and edges have the same appearance. We have also discovered that wire belts are liable to increase in width by use unless stayed by rods crossing the belt. The rod is objectionable, for the reason that it adds to the weight and cost of the belt, while it renders no practical service. To overcome this objection, we compress the transverse section by lateral pressure applied while the coils are being rolled or flattened under longitudinal tension. By this construction the angle of the links is diminished, the strain brought into more direct and parallel lines, the coils re-

duced about one-fourth in width, while the length of the links is nearly doubled, and a compact flexible belt produced which will not increase in length or width by ordinary wear, strain, or use.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a plan view of a section of wire cloth or fabric before it has been rolled or flattened. Fig. 2 is an edge view of the same. Fig. 3 is a plan of the section shown in Fig. 1 after having been rolled and compressed laterally, and Fig. 4 is an edge view of said section.

Reference being had to the drawings and the letters marked thereon, A represents helical coils of wire, which are woven together by one coil or section being screwed into another until a sheet of any desired length is formed. To secure and protect the ends of the transverse sections A, a flexible or elastic core or body, B, is applied along the ends of the sections and is encircled by longitudinal sections of coiled wire, C, which are connected to the transverse sections by the latter being screwed into the former, so that two or more coils at each end of the transverse sections are inclosed in the coils of the longitudinal sections.

The core B and the longitudinal sections are coiled right and left, to give finish to the cloth or belt by making both edges look alike, and the core is coiled at a greater angle or pitch than the transverse or the longitudinal sections. By giving a greater pitch to the coils of the core than to the longitudinal section the latter fold between the coils of the former when the coils are rolled or flattened for forming belting, as shown at *a* in Fig. 3, and the inner portions of the coils of said longitudinal sections engage with the coils of the transverse sections at a point between the junction of said transverse sections, thus forming only three thicknesses of wire at any point of intersection or crossing of the wire when rolled. By this construction a uniform thickness is maintained throughout the width of the belt, which is a very important feature, to secure the true and even running of the belt.

In constructing wide cloth or belting any

desired number of the longitudinal sections C may be applied intermediate of the edges to stiffen the article, and in wire cloth the core B may be of rubber or other flexible material; but in the construction of belting the core must be elastic as well as flexible to accommodate itself to the stretching of the links of the transverse sections A.

By comparing Figs. 1 and 3, it will be observed that the width of the cloth is reduced one-fourth and the links crowded together, thus bringing the strain into more direct and parallel lines, while the length is nearly doubled.

The machine for producing the article herein described will form the subject-matter of a separate application for Letters Patent.

Having thus fully described our invention, what we claim is—

1. Wire belting or fabric consisting of transverse sections of interwoven wires, an elastic core or body extending along the ends of the transverse sections, and longitudinal sections of coiled wire engaging with the ends of the transverse sections and encircling the core, substantially as described.

2. Wire belting or fabric consisting of transverse sections of interwoven wire, coiled metallic cores extending along the ends of the transverse sections, and longitudinal sections of coiled wire engaging with the ends of the transverse sections and encircling the metallic cores, substantially as described.

3. Wire belting or fabric consisting of trans-

verse sections of interwoven wire, metallic cores of coiled wire extending along the ends of the transverse sections, and right and left coiled longitudinal sections of wire engaging with the ends of the transverse sections and encircling the coiled wire cores, substantially as described.

4. Wire belting or fabric consisting of transverse sections of interwoven wire, right and left coiled cores of wire extending along the ends of the transverse sections, and right and left coiled longitudinal sections of wire engaging with the ends of the transverse sections encircling the coiled metallic cores and embedded between the coils thereof, the whole being rolled or flattened, substantially as described.

5. Wire belting or fabric consisting of transverse sections of interwoven wire, right and left coiled cores of wire extending along the ends of the transverse sections, and right and left coiled longitudinal sections of wire engaging with the ends of the transverse sections encircling the coiled metallic cores and embedded between the coils, the whole being rolled or flattened and compressed laterally, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES E. EMERSON.

THOMAS MIDGLEY.

Witnesses:

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