(No Model.)

T. MIDGLEY.

MANUFACTURE OF WIRE BELTING.

No. 398,431. Patented Feb. 26, 1889.

Fig. 1

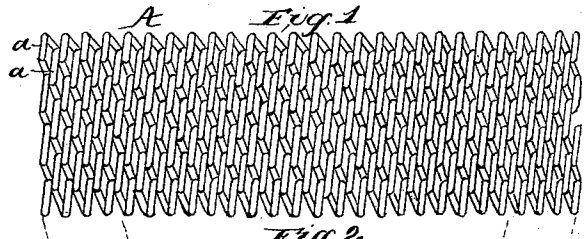


Fig. 2

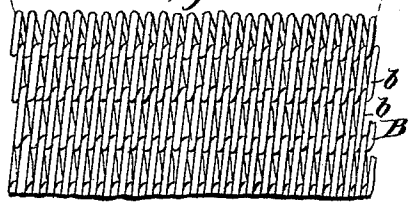


Fig. 3.

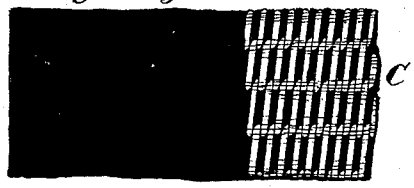


Fig. 4.

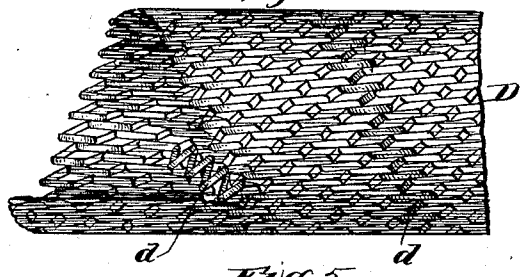


Fig. 5.

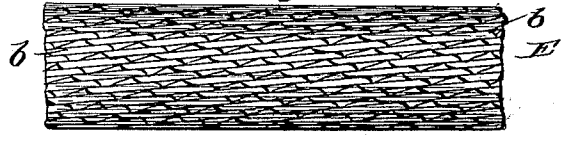


Fig. 6



Witnesses:
Wm. H. Scott.
Samuel Ket. Jr.

Inventor
T. Midgley
By Johnston, Rundell & Dyer
Attorneys

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

THOMAS MIDGLEY, OF BEAVER FALLS, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JAMES E. EMERSON, OF SAME PLACE.

MANUFACTURE OF WIRE BELTING.

SPECIFICATION forming part of Letters Patent No. 398,431, dated February 26, 1889.

Application filed October 20, 1888. Serial No. 288,630. (No model.)

To all whom it may concern:

Be it known that I, THOMAS MIDGLEY, a citizen 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 the Method of Manufacturing Belting; and I 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.

My invention relates to the manufacture of wire belting, and has for its object an improvement in the method of stretching the helices of the sheet or body and its subsequent treatment.

In the manufacture of wire belting one of the greatest difficulties encountered has been to stretch, flatten, and seat the helices or links evenly and regularly throughout the length of the sheet or body of wire from which the belting is made, and various means have been resorted to for the purpose. By practical tests I have discovered that this result may be obtained without the use of rolls or other mechanical means to flatten the links by pressure.

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

In the accompanying drawings, which form part of this specification, Figure 1 represents a plan of a section of a sheet of wire composed of intertwined sections of coiled wire. Fig. 2 is a like view of the same after it has been stretched; Fig. 3, a section of belting partly covered. Fig. 4 is a side elevation of a tube formed from a sheet such as shown in Fig. 1. Fig. 5 is a similar view of the tube after it has been stretched, and Fig. 6 is a plan or top and end view of the tube flattened into double belting and partly covered with rubber.

Reference being had to the drawings and the letters thereon, A indicates a sheet of wire composed of a series of intertwined sections, *a*, of coiled wire secured one into the other throughout the length and width of the sheet.

The sheet may be made of any desired length and width, according to the use to which it is to be applied. In making a sheet for the manufacture of the single belting B C, (shown, respectively, in Figs. 2 and 3,) the sections *a* cross the sheet transversely, and in a sheet for the construction of a tube, D—such as shown in Fig. 4, and the tube E in Fig. 5, made from the tube D, and the double belting F in Fig. 6—the sections *a* run with the length of the sheet.

The sheet A for the single belting, after having been formed of the desired length and width, is passed through a furnace heated to a cherry-red heat and subjected to longitudinal tension while heated to elongate, flatten, and seat the helices *b* in each other, as shown in Fig. 2. The sheet or belting B is then tempered, and may be covered with rubber, *c*, as shown in Fig. 3, or it may be used without a covering. In making double belting the sheet A is wound spirally or diagonally around a mandrel and the adjacent edges secured together by screwing a separate section, *d*, of coiled wire into the helices which compose the edges of the sheet, and a tube, D, formed. The tube D is then passed through a furnace heated to a cherry-red heat and the helices *b* elongated, flattened, and seated in each other by subjecting the tube to longitudinal tension while heated. The tube may be stretched by any suitable means. After the tube D has been stretched into the tube E the latter is again heated and passed between rolls to flatten it and produce the belting F of double thickness, as shown in Fig. 6. The belting is then tempered, after which it may be used with or without a covering, *c*, of rubber. When it is desired to cover it, rubber is applied on one or both sides, and the whole passed between rolls heated to about 170° to 172° Fahrenheit and the rubber forced into the interstices between the links and vulcanized.

The product of the method is claimed in another application filed herewith, Serial No, 288,628, and the tube D is claimed in my application, Serial No. 288,627.

Having thus fully described my invention, what I claim is—

1. The method of manufacturing wire belting herein described, which consists in form-

ing a sheet or body by intertwining sections of coiled wire, then heating the sheet or body so formed and elongating, flattening, and seating the helices by subjecting said body to longitudinal tension only while heated.

2. The method of manufacturing wire belting herein described, which consists in forming a sheet or body by intertwining sections of coiled wire, then wrapping the body diagonally around a mandrel and securing the adjacent edges by a separate section of coiled wire, then heating the tube so formed and elongating the helices by subjecting the tube to longitudinal tension while heated, then flattening the tube, and finally covering it with rubber.

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

THOMAS MIDGLEY.

Witnesses:
J. F. MERRIMAN,
JOHN REEVES.