(No Model.)

T. MIDGLEY.

WIRE TUBING.

No. 398,428. Patented Feb. 26, 1889.

Fig. 1.

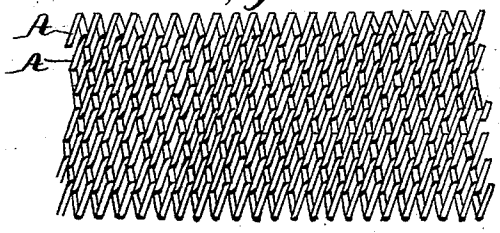


Fig. 2.

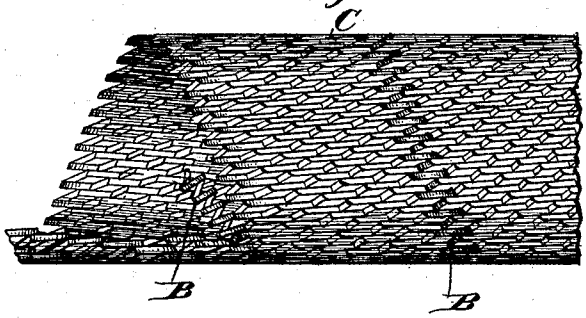
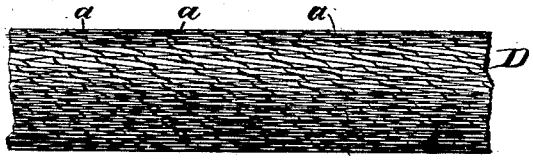


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

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

WIRE TUBING.

SPECIFICATION forming part of Letters Patent No. 398,428, dated February 26, 1889.

Application filed October 20, 1888. Serial No. 288,627. (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 Wire Body for Hose; 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 wire tubing as an article of manufacture, which may be put upon the market in sections of any desired length, and cut into suitable lengths, as it is sold, to suit the use to which it is to be applied.

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

In the accompanying drawings, which form part of this specification, Figure 1 represents a plan of a section of a sheet of wire. Fig. 2 is a side elevation of a tube formed out of a sheet of wire, and Fig. 3 is a similar view of my improved tubing.

Reference being had to the drawings and the letters marked thereon, A indicates sections of coiled wire, which are intertwined by screwing one into another longitudinally throughout the length and width of the sheet. The sheet may be made of any desired length and width, and after it has been completed it is wound spirally around a suitable mandrel and the adjacent edges of the sheet secured together by intertwining a separate section, B, of coiled wire into the helices of the sheet, as shown in Fig. 2, and forming a tube, C, of any desired length and diameter.

By winding the sheet spirally and forming a tube the helices are caused to run diagonally around the tube and thus assume an angle to a line running in the direction of the length of the tube or a line running at a right angle to the length thereof. The tube is then passed through a furnace and heated to a cherry-red heat and the helices stretched and flattened into links *a* by subjecting the tube to longitudinal tension while heated.

In stretching the tube C it increases in length about two and a half times, and the diameter is reduced to about the same extent, and a tube, D, formed, as shown in Fig. 3. In this tube the helices retain their diagonal course around it and present a continuous, unbroken, and smooth external and internal surface, while the tube is normally expanded, but capable of bending freely and collapsing when required. By this construction the links are capable of resisting great longitudinal and circumferential strain without stretching in either direction.

The tube thus formed may be used as a base or body for hose-armor for rubber or other hose, or as a covering or sheath for rope or other belting, and for many other purposes.

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

As an improved article of manufacture, a tubular wire body for hose, consisting of intertwined helices stretched to their full extent and running diagonally around the tube, substantially as described.

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

THOMAS MIDGLEY.

Witnesses:

J. F. MERRIMAN,

JOHN REEVES.