

(No Model.)

L. WILLIAMS.

BALE TIE.

No. 301,312.

Patented July 1, 1884.

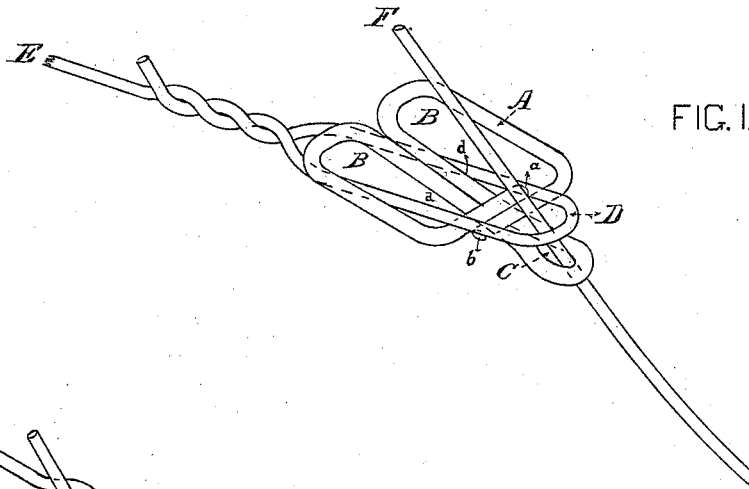


FIG. 1.

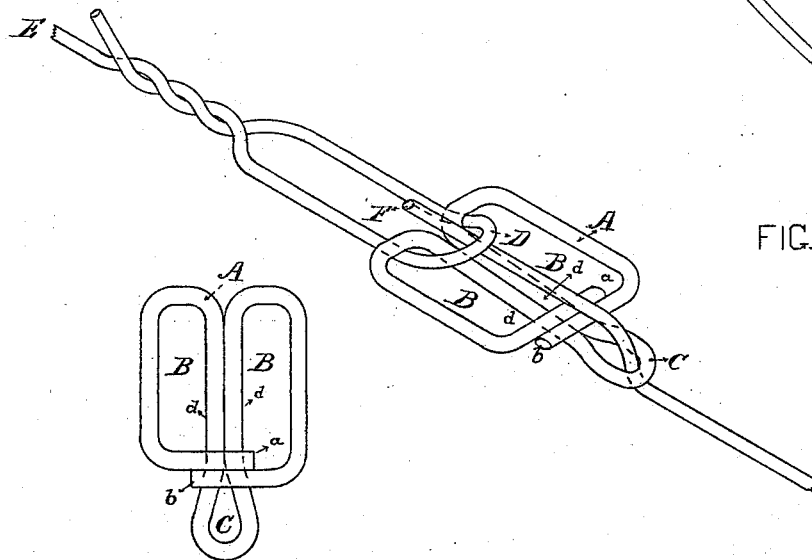


FIG. 2.

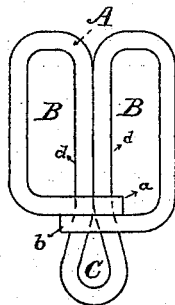


FIG. 3.

WITNESSES:

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LEWIS WILLIAMS, OF JOHNSTOWN, PENNSYLVANIA.

BALE-TIE.

SPECIFICATION forming part of Letters Patent No. 301,312, dated July 1, 1884.

Application filed March 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEWIS WILLIAMS, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Bale-Ties; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents my improved bale-tie as it appears in the act of fastening the same. Fig. 2 shows my improved bale-tie after the fastening is completed. Fig. 3 is a detached view of the link.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, A represents a link, formed of wire, having the two openings B B and an eye, C, the ends of the piece of wire out of which it is formed being returned and crossed upon itself, as shown at *a b*, this being preferably the top or upper side of the link when in use.

D represents a loop on the end of the wire bale-band E, formed by threading the end of the bale-band E through the openings of the link B B and returning and twisting it upon itself, as best seen in Fig. 2, thus attaching the link A to the bale-band E, when the bale-tie is completed as an article of commerce, and is ready for the market.

In using this completed bale-tie the band E, with the link A attached, is made to surround the bale. The plain end of the band F is inserted through the eye C and under the loop D, as shown in Fig. 1. The expansion of the bale causes the loop D to assume the position shown in Fig. 2, the end of the band F being compressed and held by the loop D, and having a bearing, as shown, in the eye C, Fig. 2, is effectively locked. It will be observed that the peculiar construction of the link A and the method of fastening it distribute the strain upon the different part of the link and the end of the band F in such a way that the link A will not become demoralized; and it

derives additional strength from the ends of the wire *a b*, out of which it is formed, being crossed over the double strand *d d*, and being strongly compressed by the end of the bale-band F, which has a bearing upon them. In point of fact, repeated tests show that the link A is as strong as the strand of the same ordinary thickness of wire. When it is desired to use light wire in the strand, the link A may be made of heavier wire.

The advantages claimed for this tie over others now in use is that it is adjustable to any size of bale, it is inexpensive, and it makes a perfect fastening, not liable to be shaken loose in handling the bale.

I am aware that metal-plate links have been patented which have nearly the same elements as this invention; but they have not come into use because they are expensive, and unless the holes in the metal plates are reamed out and made smooth they will cut the wire. This reaming and smoothing of the holes in the metal plate adds so much to the cost of manufacture that this class of ties is of no practical use. Tests show that the breaking strain of ties with such metal buckles is from a hundred to a hundred and fifty pounds less than the breaking-point of the wire ordinarily used for bands, and the wire always breaks in the metal plate.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The wire-link A, consisting of a piece of wire of proper length bent so as to form the eye C, the double strand *d d*, and the openings B B, the ends *a b* being crossed upon the double strand *d d*, substantially as and for the purpose set forth.

2. The combination of the wire link A, loop D, and end of wire strand F, the latter adapted to be inserted through the eye C and under loop D, substantially as and for the purpose set forth.

LEWIS WILLIAMS.

Witnesses:

JOHN DOWNEY,
JAS. M. SWANK, Jr.