W. P. GROOM.

Bale-Tie.

No. 220,235. Patented Oct. 7, 1879.

Fig. 1.

Fig. 2.

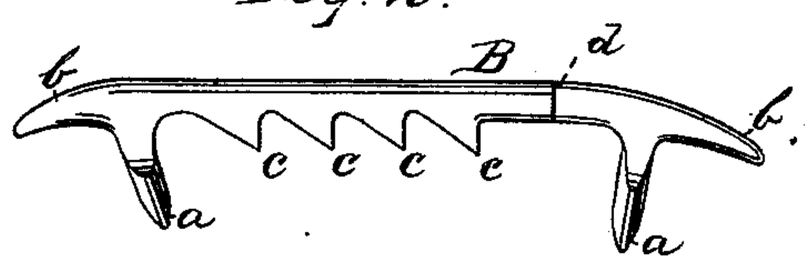

Fig. 3.

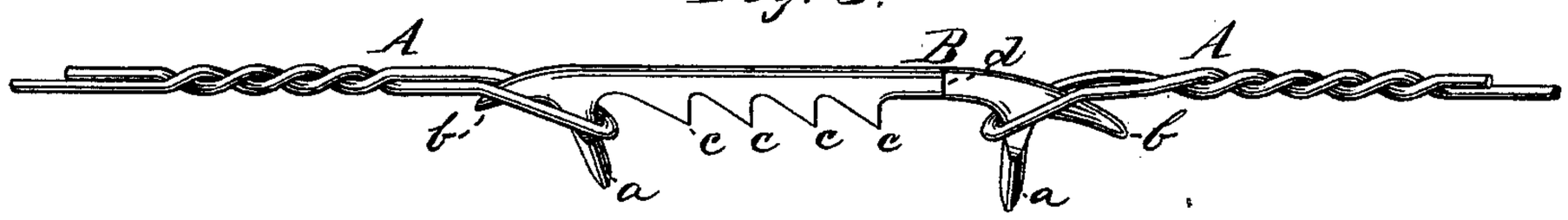

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

WALLACE P. GROOM, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **220,235**, dated October 7, 1879; application filed July 22, 1879.

To all whom it may concern:

Be it known that I, WALLACE P. GROOM, of the city of Brooklyn, county of Kings and State of New York, have invented a new and useful Improvement in Bale-Ties, of which the following is a specification.

The invention relates to that class of wire bale-ties adapted to binding raw cotton and other products for transportation after the same have been compressed into a compact body by the application of mechanical force.

In prior inventions the wire ties produced have been so constructed as to be of little or no practical use after having been once applied, whereas one of the objects of my invention is to furnish a means of fastening the bands without changing their primary shape, so that after being used they are left in a condition to be again used without substantial change or reformation.

The invention consists in a metallic bale-tie to be used in combination with wire bale-bands constructed with two transverse flanges for interlocking the bands, and having also depressed terminals to insure its under hold, and a series of ratchet-teeth and shoulder projections to take up and hold the slack, together with forming an elongated and slightly-depressed loop at either end of the wire band, which is formed to the proper length to allow the loops to be brought into juxtaposition when the band encircles the bale. The coupling is then effected by placing the flanges of the tie into the wire loops, by which means the wire band is securely fastened, leaving no protuberance or projecting ends in the way of handling or packing, as hereinafter particularly described.

In the accompanying drawings, Figure 1 represents the wire loop A as depressed and formed to receive the tie. Fig. 2 represents the tie B, which is provided with a spear-head flange, *a*, projecting at nearly a right angle near each end, and beyond which the shaft terminates in a tapering and depressed shape, as shown at *b b*.

The drawings also show a series of ratchet-teeth, *c c c c*, on the inner or flange side of the tie, between the flanges *a a*, and also shoulder projections *d d* beyond the last of the teeth in their order, which are introduced to form a hold upon the wire-loop and prevent the two loops from coming in contact with each other, while the ratchet-teeth *c c c c* serve to take up and hold the slack should any occur; but neither the said ratchet-teeth nor the shoulders are in all cases essential, and the same may frequently be dispensed with, leaving the shaft of the tie between its two spear-head flanges smooth and free of projections.

Fig. 3 represents the tie B with its two flanges *a a* inserted in the wire loops A A.

The tie may be made of any kind of metal having the requisite strength.

It will be observed that the flare of the spear-head flanges projects under and beyond the greatest breadth of the wire loops of the bale-band, thus holding the same in position and preventing its disengagement, while in case of any compressing of the wire band at the coupling-point the depressed ends of the tie B at *b b* are carried under the twisted neck of the wire loops A A, thereby effectually maintaining its hold upon the wire under all circumstances.

I am aware that wire bale-bands united at the ends by a metallic hook have heretofore been in use; but they have been found to be objectionable in use upon those points covered by my invention.

What I claim is—

1. The metallic tie B, constructed with two spear-head flanges, *a a*, shoulder-projection *d*, ratchet-teeth *c c c c*, and depressed ends *b b*, substantially as and for the purpose described.

2. The tie B, in combination with the depressed wire loops A A, formed at the two ends of a wire bale-band, substantially as and for the purposes described.

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Witnesses:
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