N. A. HAVEN

Bale-Tie.

No. 216,088. Patented June 3, 1879.

Fig. 1.

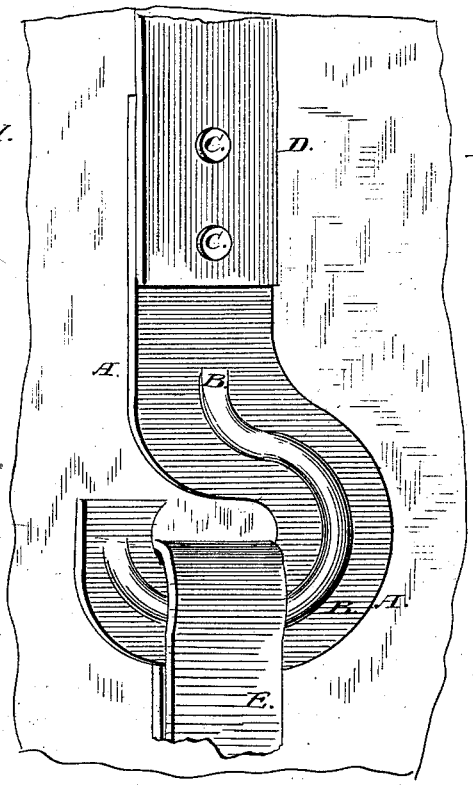


Fig. 2.

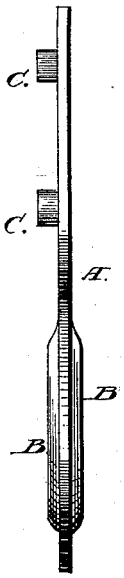


Fig. 3.

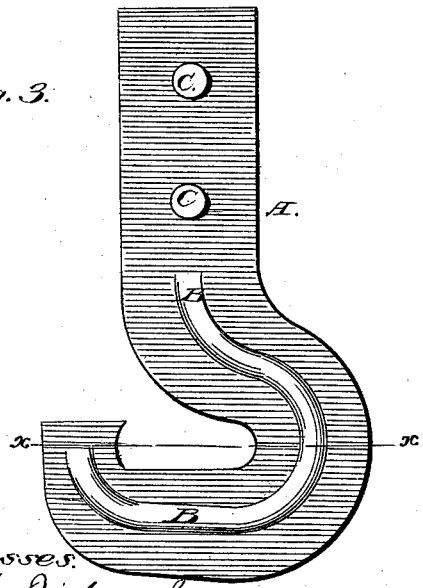
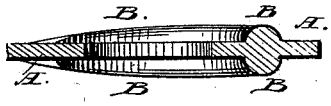


Fig. 4.



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NATHANIEL A. HAVEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **216,088**, dated June 3, 1879; application filed April 30, 1879.

To all whom it may concern:

Be it known that I, NATHANIEL A. HAVEN, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Cotton-Ties, of which the following is a specification.

The invention relates to metallic hoops or ties for securing bales of cotton and other fabrics; and it consists in a cast-iron hook of peculiar shape, with a ridge or barb-strengthener on each side, and projections in lieu of rivets wherewith to fasten said hook to the hoop-iron of which the remainder of the tie is made, as the same is more particularly hereinafter set forth.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is an elevation of my improved bale-tie as seen when fastened on the cotton-bale. Fig. 2 is a broad view of the flat side of my bale-tie hook, showing the barb or ridge and the fastening-projections by means of which it is attached to the hoop-iron forming the tie. Fig. 3 is a vertical edge view, and Fig. 4 is a horizontal edge view, showing the same projections and barb-strengthener.

A A represent the flat portion of the hook; B B, the ridge or barb, cast with and on each side of said hook, so as to strengthen it where the strain is greatest.

C C are two projecting pins or rivets, cast with and upon one flat side of the hook A A, for inserting through corresponding holes in the hoop-iron to which said hook has to be attached.

D is that part of the tie attached to the hook A A by the projecting rivets C C, and E is the other end of the said tie, caught over the hook A, as in use on a bale of cotton.

In order to make a bale-tie of my improved invention, I first make a mold embodying all the parts hereinbefore indicated as comprising the said hook, which it will be seen is peculiar in construction, the upper part, attachable to the hoop-iron, being flat and straight until it commences about half-way in its length to turn, when it is formed in a curve like that of a block letter **S**, around which curved portion there is thrown on each side the barbed strengthener B B. The inside of the said hook is straight along the lower edge of the catch, so as to hold the end of the hoop properly. This mold is then placed in casting-sand in the usual manner for making iron castings, and the flat hook A A, with its barbed strengthener B B and rivet-projections C C, is cast of malleable iron in a single piece, thereby securing greater economy in the character of the material used, as well as in the process of construction, than in any other cotton-tie now in use. After this hook is taken out of the mold properly cast, the two projections C C are put through two corresponding holes in a piece of hoop-iron of the proper length, and by means of a riveting-hammer the said hook is securely riveted to said hoop-iron, and the bale-tie is complete.

To apply the fastening on the bale it is only necessary that the loose end of the hoop-iron be turned and caught over the hook, as shown in Fig. 1.

What I claim is—

1. A bale-tie composed of a hook-piece of malleable iron having a barbed strengthener and rivet-projections cast thereon, substantially as described.

2. A hook-piece for a bale-tie composed of the flat hook A A, the barbed strengthener B B, the projections for fastening C C, all cast in one piece, in combination with a tie of hoop-iron, substantially as shown and described.

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