

G. N. Beard,

Bale Tie.

No. 67.707.

Patented Aug. 13. 1867.

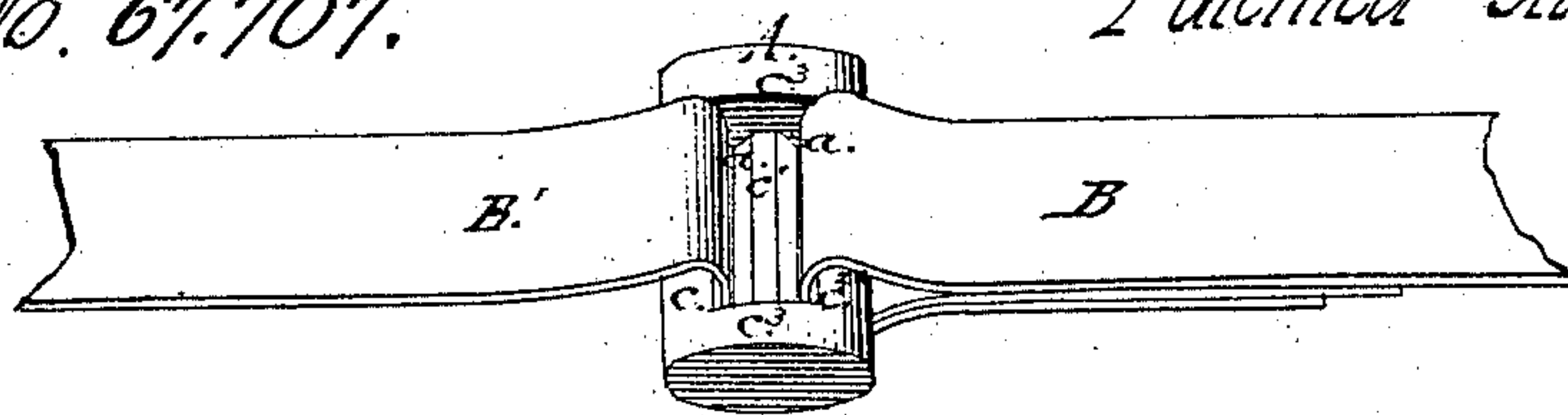


Fig. 1.

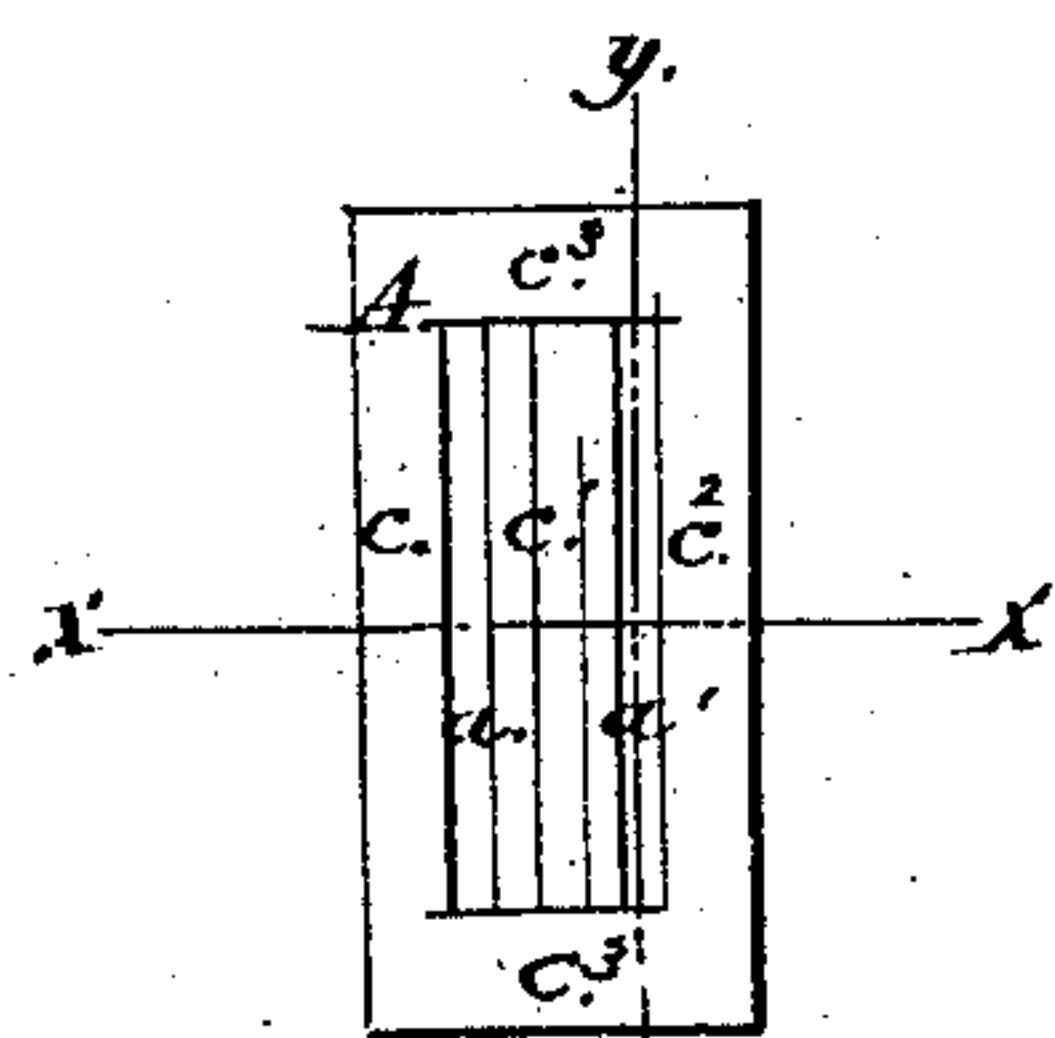


Fig. 2.

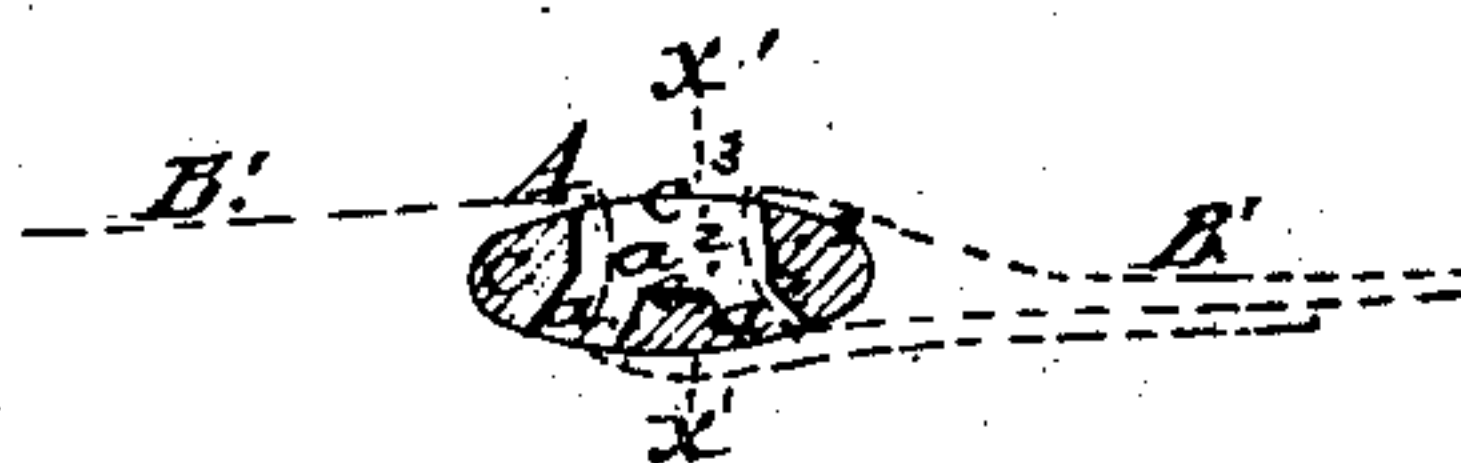


Fig. 3.

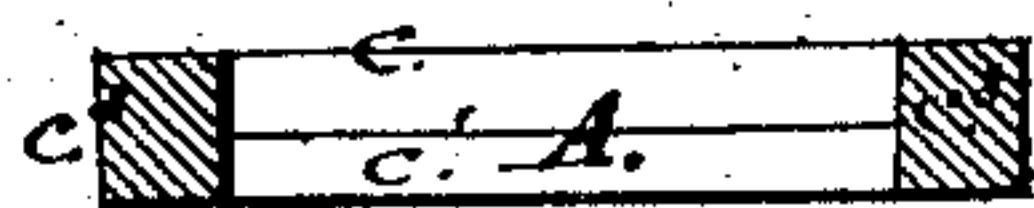


Fig. 4.

Witnesses:

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GEORGE N. BEARD, OF ST. LOUIS, MISSOURI.

Letters Patent No. 67,707, dated August 13, 1867.

IMPROVEMENT IN COTTON-BALE TIES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE N. BEARD, of the city and county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Iron Ties for Baling-Bands; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to a metallic tie-piece, pierced with two mortises for the reception of the ends of the bands. One of these ends is to be inserted into its mortise, (previous to the application of the band to the bale,) and then doubled back under the band, and around the side rail of the tie-piece formed by the mortise perforation. After the band shall have been placed around the bale, the loose end of the band is to be inserted into the mortise at the other side of the tie, and the tie-piece drawn as far on to the loose end of the band as the dimensions of the bale will allow; then, when the press (which shall have held the bale into a compressed state while the bands were being secured in place) is released, the end of the band which was last inserted will, by the expanding force of the now released bale, be forced into a short bend, across the lower inner corner of the mortise through which the said end was inserted. In this manner the tie-piece is made self-adjustable, and the band, not having any perforations, may be secured at any point to which the tie-piece may be drawn. This construction not only cheapens the band by dispensing with all perforations in it, but also increases its strength, and its utility by rendering it applicable to any sized bale.

The details of the construction of the tie-piece will more fully appear from the subjoined description of the invention, which will enable those skilled in the art to make and use the improved tie. Of the accompanying drawings—

Figure 1 is a perspective view of the tie-piece and portions of the band ends.

Figure 2 is a plan of the tie-piece.

Figure 3 is a transverse section of the tie-piece taken on the line $x x$ of fig. 2.

Figure 4 is a longitudinal section taken on the line $y y$ in fig. 2.

The tie-piece A is rectangular in plan, as seen in fig. 2, and is pierced with two mortises, $a a^1$, the upper ends of which terminate in a countersunk cavity, a^2 , that extends from the top face of the tie-piece down into the substance of the tie-piece to the extent of one-half to two-thirds of its entire thickness. The mortises $a a^1$ are set at an angle of about thirty degrees, more or less, with the axial line $x' x'$, seen in fig. 3. The perforations $a a^1 a^2$ divide the tie-piece A into three longitudinal rails, $c c^1 c^2$, the central one of which, c^1 , is only about one-third or one-half the thickness of the end rails c^2 , and owing to the divergent directions of the mortises $a a^1$, as already described, the two bottom corners of the said rail c^1 are formed into acute angles, over one of which the end of the band last inserted will form a sharp bend, as illustrated by the dotted line B' in fig. 3. The section of the end rails c^2 should be somewhat increased in the central part, as clearly shown in figs. 1 and 3. This gives the required amount of strength, where most strength is required, and the reduction of the thickness of the central rail c^1 , as already described, reduces the weight, and consequently the cost, to the minimum. The corners of the rails $c c^2$, which are adjacent to the mortises $a a^1$, should be rounded off somewhat, so as to ease the bend of the band where it passes down into the mortise, and thereby reduce the liability to rupture at that point. By placing the mortises $a a^1$ somewhat diagonally through the piece A, it is rendered possible to make the said mortises of sufficient width to receive the thickness of the band, and at the same time to place the lower acute angle of the central rail c^1 so nearly under the upper angle of the side rail contiguous to it as to render the perfect locking and securing of the band, by bending over the two corners of said rails, an absolute certainty. Both edges of the tie-piece are constructed in precisely the same shape, so that the tie-piece may be reversed in either direction.

The tie-piece constructed as above described, the mode of its application is as follows: The band B will first be inserted through one of the mortises, and then bent back around the contiguous rail of the tie-piece, and back under the band, thus securing the tie to the band without any cutting, punching, or riveting whatever, and consequently securing the entire strength of the band, and cheapening its production. After the band and tie have been thus united, the band will be placed around the bale while it is yet under the influence of the press, and the tie turned up on one edge, so as to allow the end B' to readily enter its mortise. The tie will

then be drawn on to the loose end of the band, as far as the dimensions of the bale will allow it to go, the end B' underlying the end B, and confined between it and the bale. When this position of the band ends and tie shall have been secured, the press will be released, and the end B' will thereby be forced by the expanding bale to make a short bend over the acute angle of the central rail c^1 , and the band will thereby be perfectly and securely locked around the bale.

Having fully described my invention and its application, I claim the tie-piece A, having a countersunk cavity, a^2 , and two diverging mortises, a^1 , when applied to and combined with the baling-band B B', substantially as described and set forth.

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Witnesses:

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