

R. G. STEWART.
Bale-Tie.

No. 219,993.

Patented Sept. 23, 1879.

Fig. 1.

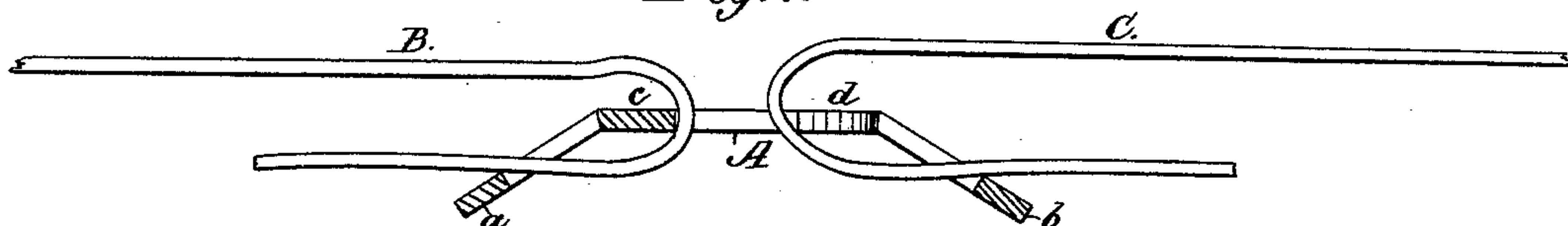


Fig. 2.

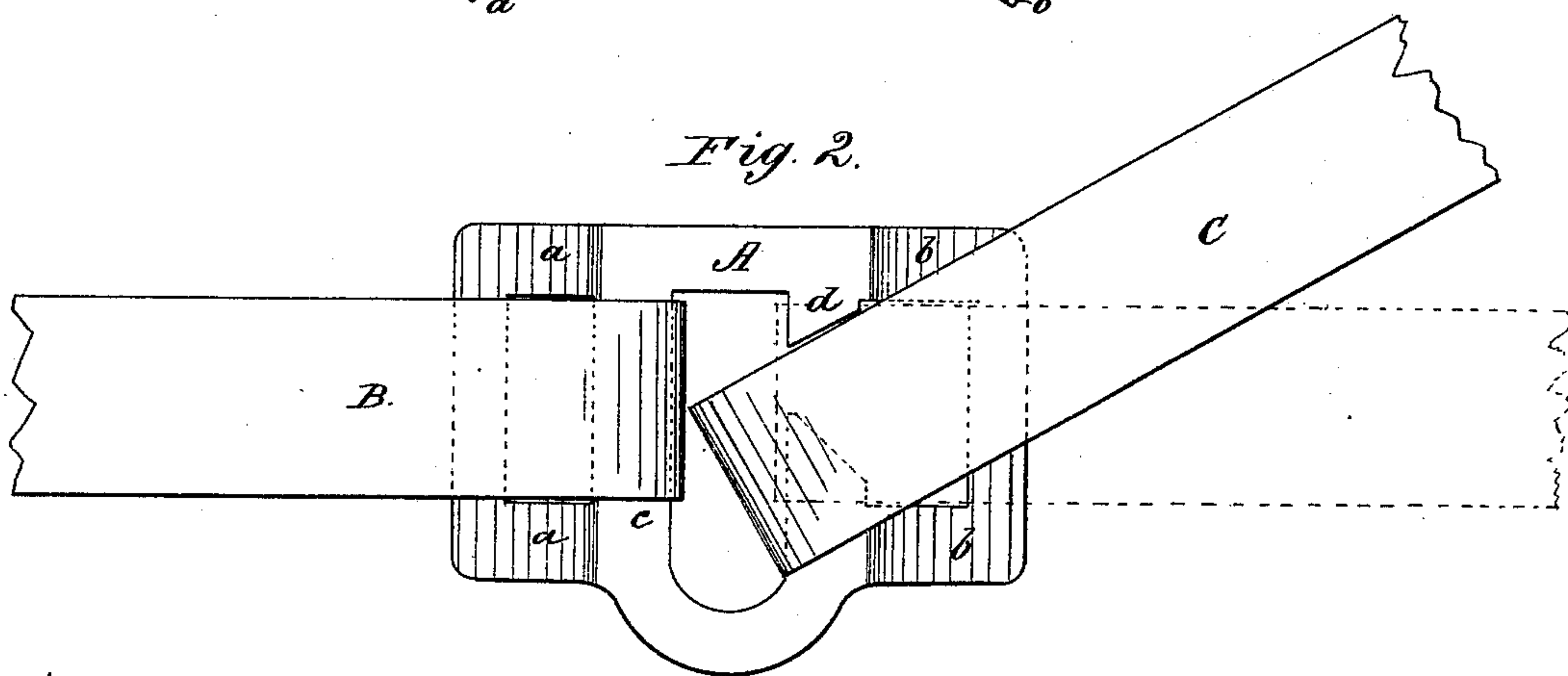


Fig. 3.

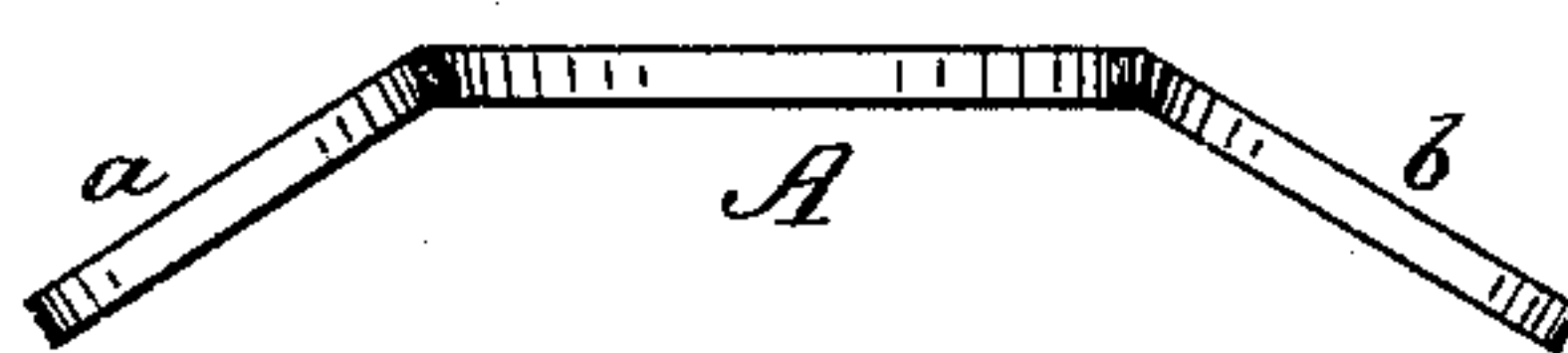
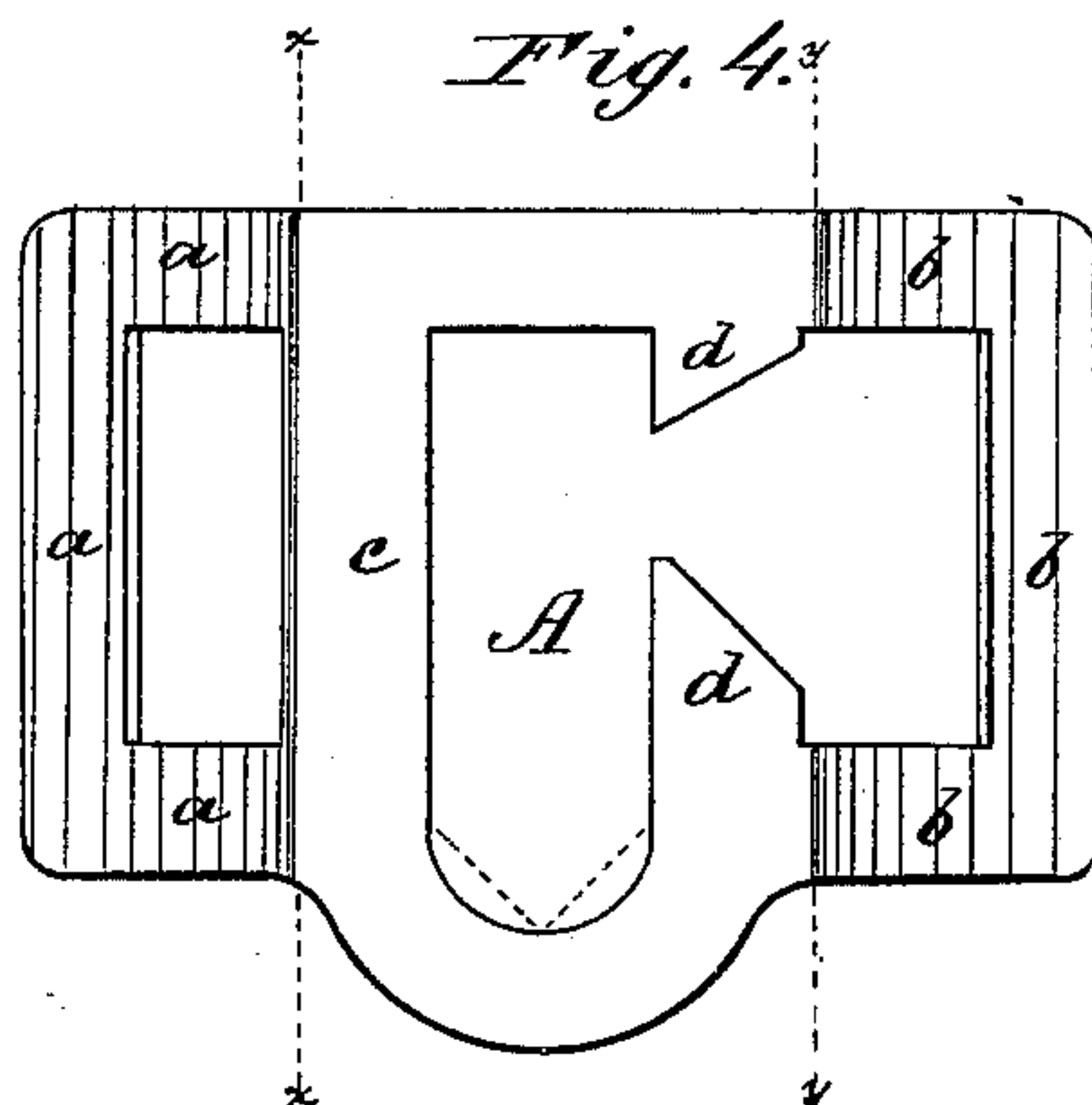


Fig. 4.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE

ROBERT G. STEWART, OF AUGUSTA, GEORGIA, ASSIGNOR TO HIMSELF
AND E. J. O'CONNOR, OF SAME PLACE.

IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **219,993**, dated September 23, 1879; application filed July 25, 1879.

To all whom it may concern:

Be it known that I, ROBERT G. STEWART, of Augusta, in the county of Richmond and State of Georgia, have invented a new and Improved Bale-Tie; 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 part of this specification, in which—

Figure 1 is a side view with the buckle in section, and showing the application of the bands. Fig. 2 is a plan view of the same. Fig. 3 is a side view of the buckle detached. Fig. 4 is a plan of the same.

My invention relates to an improvement in buckles for fastening the ends of bale-bands, which improvement is designed for greater strength, lightness, and security.

It consists of a cast buckle having three openings or band-slots, of which the central opening is longer than the side openings, and communicates through a tapering throat with one of the side openings, and in which also the side openings are formed in a portion of the buckle which dips downwardly at a sharp angle into a different plane from the main central portion of the buckle, the said buckle being designed to be used with a band whose bent ends occupy a position around the bars of the middle section, while the free ends of the band pass above the outer sections of the buckle, so that they are held by a positive bearing-surface without depending upon the expansion of the bale for holding the same.

In the drawings, A represents the buckle, which primarily was designed as an improvement upon what is known as the "arrow" tie. The middle portion of my buckle, with the side pieces cut off through the line *x x* and *y y*, constitutes, substantially, what is known as the "arrow tie," the end of the slot being made, however, in the arrow tie angular, as shown in dotted lines, instead of curved. It is a well-known fact that this arrow tie, while being a good fastening in many respects, is weak and will not stand under the compress.

In preserving the lightness of the buckle and adding to its strength, I cast upon the arrow tie the side sections, *a a a b b b*, which allows the general thickness of the bars to be

reduced, and yet very greatly strengthen the buckle, for when the strain of the band is applied to the bars *c* and *d* the section *a a a* acts as a brace to the bar *c*, to prevent it from bending and breaking, and the section *b b b* acts in a similar manner to prevent the slotted side *d* from opening or breaking. While the sections *a a a* and *b b b* secure this result, they also form a solid bearing for the under sides of the free ends of the band, and hold the band against pulling out, for which result the arrow tie has to rely upon the expansion of the bale.

In applying the bale-band, one end, B, is extended over and around the bar *c*, and then back through the side slot and over the section *a*. The other end, C, is bent, and is applied by having its looped end inserted over one of the ends of bar *d* at an angle, as in Fig. 2, and is then swung around into line with the other portion of the band, which admits the other end of bar *d* and fastens the band. To permit this action two conditions are requisite: First, the middle slot of the buckle must be made considerably longer than the end slots, (which are barely wide enough to receive the band,) in order that the looped end of the band may be pushed sidewise far enough for its other side to pass the opposite end of bar *d*. Another condition is, that the sections *a* and *b*, forming the side slots, must be in a different plane from the middle portion of the buckle, in order to allow the loop to be inserted, and for this reason the sections *a* and *b* dip downward at an angle, as shown in Figs. 1 and 3. After the band is fastened it is locked by reason of the fact that, the end slots being only just large enough to receive the band, the latter can have no natural sidewise movement, which would allow its looped end to pass out through the throat.

In defining my invention more clearly, I would state that I am aware of Patent No. 135,526, in which the free ends of the band are positively held independent of the expansion; but the band is not in this case inserted by means of a long middle slot, and then locked by the shorter end slot.

I am also aware of the English Patent No. 231 of 1871, in which three slots are employed.

In this case, however, the sides of the throat are in different planes, while mine are in the same plane. The insertion of the loop is by a parallel lateral movement, and the locking of the band, when inserted, instead of being accomplished by the relative sizes of the central and end slots, as in my case, the two corresponding slots in said English patent are made of the same length, and a shoulder is made to prevent the loop from slipping sidewise to its unfastening position.

Having thus described my invention, what I claim as new is—

1. The bale-tie buckle A, having a middle slot longer than the width of the band, and side slots of a length just adapted to receive the band, the said side slots being formed in

sections *a* and *b*, bent at an angle to the central section, and one of said side slots having communication with the central slot through a throat, substantially as and for the purpose described.

2. The angular buckle A, composed of the sections *a b c d*, forming a central long slot, and shorter slots in the ends, in combination with the bale-band B and C, having its free ends returned above the sections *a* and *b*, substantially as and for the purpose described.

The above specification of my invention signed by me this 16th day of July, 1879.

R. G. STEWART.

Witnesses:

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SOLON C. KEMON.