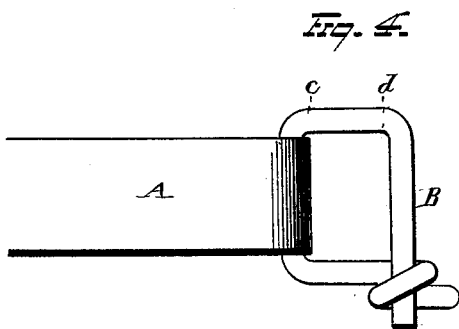
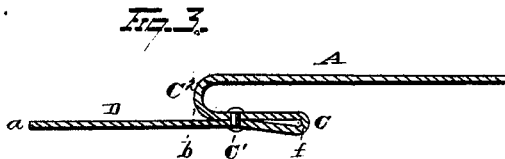
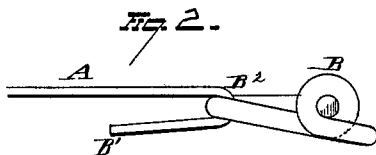
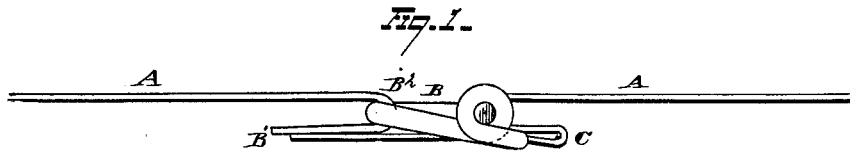


W. S. McKINNEY.  
Bale-Tie.

No. 203,061.

Patented April 30, 1878.



WITNESSES  
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ATTORNEYS

# UNITED STATES PATENT OFFICE.

WILLIAM S. MCKINNEY, OF HAMILTON, ASSIGNOR TO THE UNITED STATES IRON COMPANY, OF YOUNGSTOWN, OHIO.

## IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **203,061**, dated April 30, 1878; application filed April 15, 1878.

*To all whom it may concern:*

Be it known that I, WILLIAM S. MCKINNEY, of Hamilton, in the county of Butler and State of Ohio, have invented certain new and useful Improvements in Bale-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to metallic bale-ties to be used around hay, hemp, or cotton bales. It consists in forming on one end of metallic hoops or bands a peculiar self-locking hook, more fully described hereinafter, and on the other an oblate hook, to which is loosely attached a buckle or link, through which the first hook passes.

In the drawings, Figure 1 is a side elevation of my device as it is shown when locked. Fig. 2 is a side elevation of the oblate hook with the buckle or link in place. Fig. 3 is a vertical sectional view of the improved self-locking hook. Fig. 4 is a plan view of the buckle or link as preferably formed.

A is an ordinary metallic band or hoop used on bales. B is the buckle or link, which engages the oblate hook B<sup>2</sup> and the improved self-locking hook C.

The buckle B may be made of any desired material or shape. It is only necessary to have a buckle or link with an opening sufficiently large to admit freely the hook C.

At one end of the hoop or band A is formed a hook, as shown in Fig. 3. This is made by forming a common round hook, and then bending the end of the hook thus formed back upon itself and riveting the two plates together, as shown at C' in Fig. 3.

The object of the rivet is to add strength to the hook, which it will do materially. In making this hook care must be taken that the end D of the band or hoop between the points *a* and *b* should be greater than the length of the buckle B between the ends *c* and *d*, and also the length of the re-enforced hook between the points *b* and *f* should be greater

than the length of the buckle between the points *c* and *d*, Fig. 4, as above described.

Having thus described the construction, the operation or mode of using my device is as follows: The hook C, as described, having first been made on the end of the band or hoop, of the desired length, and the buckle B engaged therewith, the band *a* is now passed around the bale, and, the slack having been taken up, the point on the band is ascertained where the oblate hook B<sup>2</sup> should be made. The band is now sufficiently removed to make the oblate hook B<sup>2</sup>, and the buckle B removed from the hook C and slipped into the oblate hook B<sup>2</sup>.

The two ends of the band thus prepared, with the hook C at one end and the oblate hook B<sup>2</sup> holding the buckle B at the other, are brought together over the bale, and the hook C passed through the upper side of the opening in the buckle or link B and made to engage therewith.

The bale may now be relieved from pressure, and it will be found that it will bear against the end D of the hook C. This in turn will bear against the end B<sup>1</sup> of the oblate hook.

The tie is now prevented from lateral displacement by the buckle B, held securely by the oblate hook, and from longitudinal displacement from the impossibility of the hook C becoming disengaged from the buckle B.

Having thus described the construction and operation of my device, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bale-tie, the end of the band formed with a return bend or hook, C, said bent portion or hook re-enforced and strengthened by doubling the end of the band back upon itself and securing the end of the band to the return bend or hook C, substantially as set forth.

2. A bale-tie having a buckle or link attached to one end, while the other end is provided with a return bend or hook, which latter terminates in an extension of greater length than the opening in said link or buckle, substantially as set forth.

3. In a bale-tie, the hook C, re-enforced at

and near its end by doubling the same back upon itself, riveting the plates thus bent together, and prolonging the end D, as shown in Fig. 3, substantially as described and shown.

4. In a bale-tie, the combination of the hook C, as described, with the buckle or link B, substantially as described and shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM S. MCKINNEY.

Witnesses:

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