B. KANE.

STRAP-LOCK.

No. 189,361. Patented April 10, 1877.

FIG. 1.

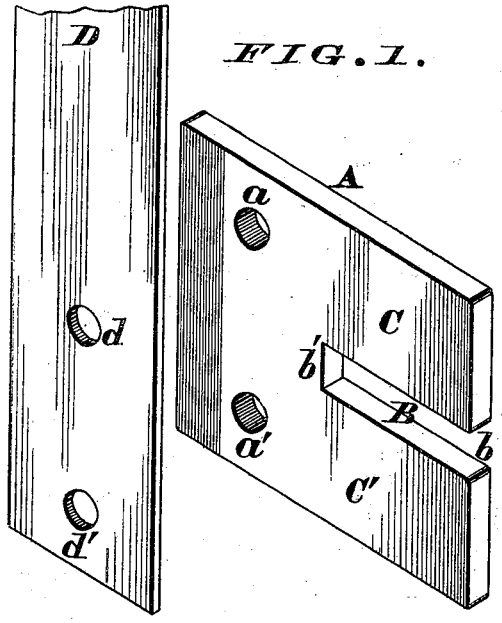


FIG. 2.

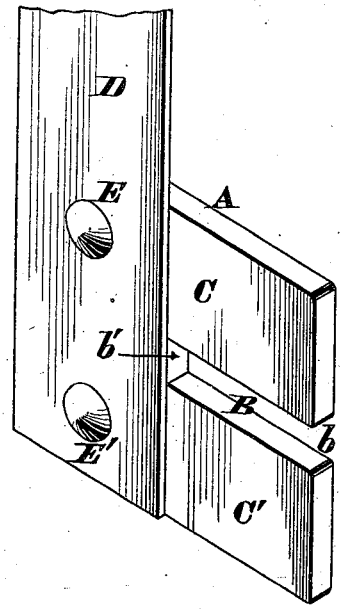


FIG. 5.

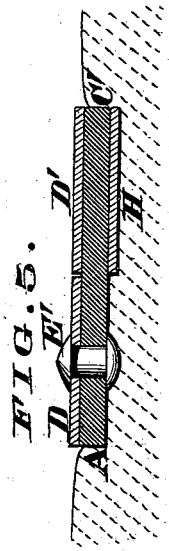
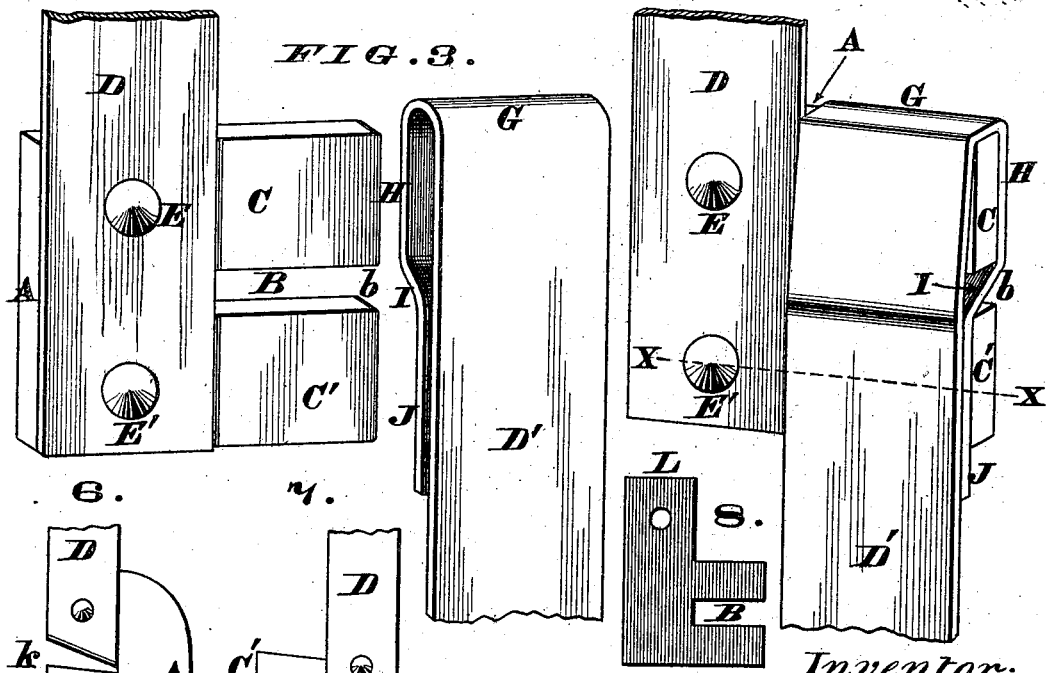
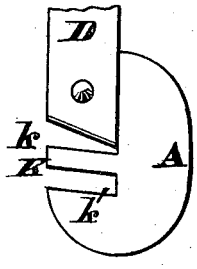


FIG. 4.

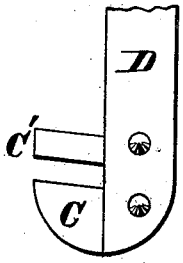
FIG. 3.



6.



7.



Attest.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN STRAP-LOCKS.

Specification forming part of Letters Patent No. **189,361**, dated April 10, 1877; application filed December 14, 1875.

To all whom it may concern:

Be it known that I, BART KANE, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Bale-Ties, of which the following is a specification:

This invention relates to that class of bale-ties which consist essentially of a retaining or locking plate or buckle having one end of the metallic band or strap attached thereto; and my improvement comprises a novel construction of the locking-plate, whereby the free end of the band is capable of being engaged with said plate or buckle in a fourfold manner. In my improved tie said plate is preferably a flat piece of wrought metal, which plate may be exactly square, or it may be oblong, or of any other appropriate shape. A slot, open at its outer end, extends about half-way across said plate, thereby affording two stout lugs or prongs wherewith the free end of the band is engaged, as will presently appear.

Secured to this flat plate is the fixed end of the metallic band, which latter is long enough to surround the bale and leave its free end at liberty to be engaged with the retaining device. This band may be of any appropriate thickness; and it is broad enough to extend from one edge of the locking-plate to the inner or closed end of the previously-described slot. The free end of the band, after being passed around the bale, is recurved, thereby producing a bend or bight in the band, which bight is engaged over one of the previously-described lugs or prongs of the locking-plate.

The end of the band is then passed diagonally across the open slot, and tucked in between the other lug and that portion of the band immediately outside of said lug. This act secures the free end of the band to the locking-plate in a fourfold manner, and as said band and plate are somewhat embedded in the material composing the bale, any accidental slipping of the tie out of the open end of the slot is effectually prevented.

In the accompanying drawing, making part of this specification, Figure 1 is a perspective view, showing the locking-plate and metallic band or strap detached from each other. Fig. 2 is a perspective view, showing these two members secured together. Fig. 3 is a perspective view, showing the free end of the band in position for engaging with the locking-plate. Fig. 4 is a perspective view of the complete tie; and Fig. 5 is a transverse section of the same at the line X X.

Diagrams 6, 7, and 8 illustrate three modifications of the locking-plate.

The locking device or buckle consists of a flat plate, A, preferably of wrought-iron, and of any convenient size and shape. This plate is pierced with a slot, B, of any suitable width, and having an outer or open end, *b*, and an inner closed end, *b'*. The production of this slot affords two distinct lugs or prongs, C C', whose office will presently appear.

Said slot extends about half-way across the plate A, and terminates at or near the inner edge of the fixed portion of a metallic band, D, which latter is perforated at *d d'*.

These perforations are coincident with the apertures *a a'* of the locking plate or buckle.

E E' are rivets, which pass, respectively, through the apertures *a d* and *a' d'*, thereby securing the fixed end of band D to plate A.

This band, however, may be fastened to said locking-plate in any other secure manner.

When the band is secured to the plate the former occupies a position at right angles to the open slot B *b b'*, as seen in Figs. 2 and 3. The manner of engaging the free end D' of the band to the locking-plate A B C C' is as follows:

The band is first passed around the bale F, in the usual manner, and a bend or bight, G, is made in the free end D' of said band, and engaged over the outer edge of lug C.

The band is now passed behind said lug at H, and thence diagonally across slot B at I toward the outer surface of the other lug C'. Finally, the extremity J of the band is tucked in between the lug C' and that portion of the band D' immediately outside of said lug C'. The free end of the band now binds against the locking-plate A in four different places, to wit, at the bend G, behind the lug C at H, diagonally across the slot B at I, and then

between the lug C′ and band D′ at J, as clearly shown in Fig. 4.

Such being the condition of the tie, it is apparent that the expansive force of the compressed bale brings the band into a fourfold contact with locking-plate A, and thereby prevents said band being drawn longitudinally out of the retaining devices B C C′.

Furthermore, this expansive action of bale F causes the plate A C C′ and band D D′ to embed themselves a considerable distance in the cotton, which embedment prevents the band shifting transversely and slipping out at the open end *b* of slot B, so as to disengage said straps D D′ from the retaining device A. (See Fig. 5.)

From the above description it will be seen that both longitudinal and lateral displacement of the band is prevented by the expansive force of the bale acting against the inner surfaces and the edges of the former, thus dispensing with rivets or other positive retaining devices, and obviating the use of an unusual or extra length of band after being engaged with the buckle A.

To detach the shiftable end of the band from said buckle, it is only necessary to drive the contiguous edges of the band apart with any suitable prying implement, so as to liberate the bend D′ G H from lug C, and force the portion I out from the open end *b* of the slot. As these acts are accomplished without cutting the band or breaking rivets or other positive retaining devices, it is evident my tie can be used repeatedly and without becoming unserviceable.

Owing to the manner of applying the two ends D and D′ to buckle A, the band is passed helically around the bale, and if this disposition of the band should be objected to, it can be secured to the locking-plate, as seen in Diagram 6. Here said plate is shown as furnished with two slots, *k k′*, and the free end of band D is first passed down through slot *k*, thence under lug K, and finally up through slot *k′*. These manipulations bring the two ends of the band exactly in line with each other, and not side by side, as represented in Fig. 4.

The slots, instead of being cut in from the right edge of the plate, may be cut in from the left edge of the same, as seen in Diagrams 6 and 7. Furthermore, the locking-plate may have a longitudinal extension, L, to receive the fixed end of the band, as seen in Diagram 8.

The oblique slots shown in Diagrams 6 and 7 deflect the bent end of the band toward the center of the locking-plate, and thus coact with the expansion of the bale in preventing any accidental disengagement of said band.

I claim as my invention—

A bale-tie consisting of the locking-plate or buckle A, having two lugs or prongs, C C′, separated by a slot, B, open at *b*, and closed at *b′*, said plate having secured to it one end of band D, whose free end D′ has the fourfold engagement G, H, I, and J with said lugs and slot, substantially as herein described, and for the purpose set forth.

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Attest:
J. W. FEIGHAN,
L. H. PUMMILL.