E. P. JONES.

COTTON BALE TIE.

No. 108,600. Patented Oct. 25, 1870.

Fig. 1.

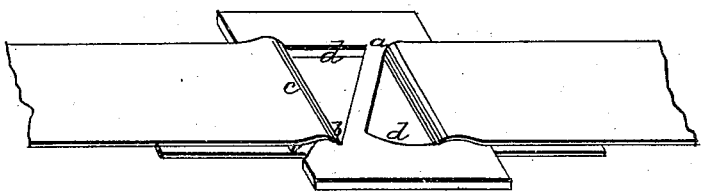


Fig. 2.

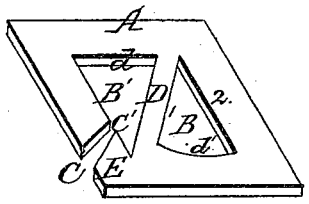
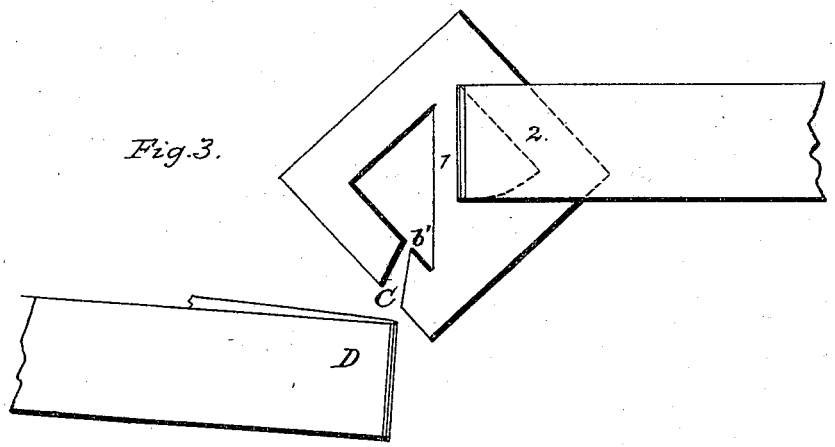


Fig. 3.



Witnesses.

H. N. Jenkins.

Rufus R. Rhodes.

Inventor.

Edwd. P. Jones.

UNITED STATES PATENT OFFICE.

EDWARD P. JONES, OF SUNFLOWER COUNTY, MISSISSIPPI.

IMPROVEMENT IN COTTON-BALE TIES.

Specification forming part of Letters Patent No. **108,600**, dated October 25, 1870.

I, EDWARD P. JONES, of the county of Sunflower and State of Mississippi, have invented a certain Improvement in Cotton-Bale Ties, of which the following is a specification:

My invention belongs to that class of cotton-bale ties in which there is an opening for the introduction of the last end of the band that is to be fastened thereto, after the same has been bent into the form of an oblate hook; but it is wholly unlike any heretofore devised in which this distinguishing feature obtains, in several important particulars. It is, for example, provided with two triangular slots, in reverse position to each other, to receive the two ends of the band, and fasten the same around the bale of cotton, which occupy such relation to each other and to the band that while, after being secured to one end of the latter, they allow the tie to be turned, as it were, upon an axis sufficiently to receive the other end, after the same has been bent into hook form, in the same, or nearly the same, line which will be maintained by the band after the fastening has been effected and the bale has been withdrawn from the compressing-machine, thus securing the taking up of all the slack of the band, and will, moreover, so soon as the bale has been released from compression, of itself and automatically, adjust itself to the hook in the best position to throw the tension of the band upon it, in such manner as to present the whole power of resistance which the tie possesses against that tension, and to make, therefore, the cutting away of a portion of the plate of which the tie is constructed outside one of the said slots, to make the narrow opening for the insertion of the last end of the band that is fastened, as aforesaid, within said slot, a matter of no consequence, so far at least as the strength of the tie is concerned.

My mode of making the slit in question also differs from any plan ever hitherto suggested or practiced, in that it is cut at such an inclination to the lines of the external edges of the tie that when the latter is turned to receive the last end of the band, it will be at once a guide to take the said end properly within the slot, with which it communicates, and the means for causing the same automatically to adjust itself in that position in the slot that will prevent it from getting out without positive manipulation, so that no shock or concussion, however violent, to which the bale is subjected will cause a detachment of that end from the buckle.

But my invention will be better understood by referring to the drawing, whereon it is shown, at Figure 1, in connection with the two ends of a band, as when in actual use, and at Fig. 2 as when detached from the band. Fig. 3 represents the tie as when turned obliquely to the band to receive the last end of the same that is fastened thereto.

On the drawing, A marks the tie as an entirety, and B a triangular slot environed by an unbroken continuity of metal. This slot is designed to receive the first end of the band that is fastened to the tie, which said end is passed through this slot and folded over on the side next the bale, in hook form, as shown at Fig. 1, in the ordinary manner.

The slot B′ is also of triangular conformation, but differing slightly, it will be seen, in its outlines from slot B; but instead of being enveloped by an unbroken rim of metal, like slot B, it communicates with the open space outside of the end of the tie next to which it is cut by means of a diagonal or inclined cleft or slit, C, which, although just wide enough to receive the band edgewise, at the point at which it communicates with the slot, gradually widens, as shown, toward the external end edge of the tie or plate A.

Between the slots B B′ is a diagonal or oblique bar or brace, D, which greatly re-enforces and strengthens the part E at the point where strength is most needed to resist the strain thereupon.

The conformation of the slot B, while effectually preventing any endwise movement of the band at the end therein fastened, because of the impingement of the bar D, as shown at *a*, against said end, provides an axis on which the tie may be turned into an oblique position with respect to the band. When thus turned the effect will be to bring the cleft C at right angles, or nearly so, to the line of the band when in proper position on the bale, so that, it will be perceived, the band can be inserted through the same into the slot B′ without being moved laterally more than its width outside or away from its true line around the bale. This being so, it is self-evident that all,

or nearly all, the slack can be taken up before the insertion is made or the end bent into hook form. Furthermore, it will be seen that the moment the band enters the slot B′ the relation of the parts, as well as the configuration of the slot, will have the inevitable effect of throwing the last edge of the end of the band toward the end *b* of the slot, or into the position as shown at *c*, Fig. 1, which establishes a uniform bearing for the band from one of its edges to the other. When in its proper position, as shown at *c*, this end of the band, as in the case of the other, is maintained securely in place by the contact of the bar or brace D upon its edge at the point of its fold, as clearly shown at Fig. 1, so that there can be no withdrawal of this end except by positive manipulation and the turning of the tie back into the oblique relation to the band which it occupied at the time of the insertion of the band into this slot; hence no shock or concussion can by possibility have the effect of unlocking the fastening at this end any more than at the other.

On the two sides of the slots which establish the bearings for the two ends of the bands the length is just sufficiently greater than the width of the band to permit the latter readily to come into the position as shown at Fig. 1. This necessarily brings into action the ends *d d′* of the slots, to compel the bands to take the position as shown at said figure by positive pressure the moment the bale is withdrawn from the compressing-machine and its expansion develops tension upon the bands. In fact, in order that this pressure may be continually present, in the drawing the side *d′* of the slot B is in the form of an arc of a circle; but, if preferred, it may be straight, like the corresponding line in slot B′.

The great advantages of my improvement will readily suggest themselves to those acquainted with the practical working of the ties now in the market.

Owing to the fact that the slot B is formed with straight sides 1 2, so meeting as to produce a sharp corner or positive angle, the band secured therein, when the tie is rocked to bring the cleft C in proper position to receive the other end of the band, as shown in Fig. 3, works in said corner, as it were, on a pivot, thus rendering it impossible for the tie to become disengaged from the band by its dropping out of the loop in which it is secured.

Another great advantage of my tie, and which constitutes the chief feature of my invention, is the converging slanting cleft C. This is so formed as not only to act as a positive guide for the loop D′ of the band, but, owing to the fact that its narrowest point is at *c′*, which is immediately at the entrance of the slot B′, the utmost positive bearing-surface for the band when in position around the bale, as shown in Fig. 1, is afforded.

By reference to the drawing it will be observed that this cleft C is gradually tapering in form, its outward point of opening being sufficiently wide to allow of the band being easily and quickly inserted, while its inward point of opening is only of such width as to permit the free passage of the band. This arrangement of cleft affords the loop D′ of the band an almost unbroken bearing-surface, notwithstanding the fact that the looped end D′ of the band, when secured in the slot B′, entirely encircles the cleft. This nearly-uniform bearing-surface for the loop D′ is a great advantage, and is owing to the fact that the cleft C is so formed that at *c′* (its point of entrance into the slot B′) its width is scarcely more than the thickness of the band, and is consequently so narrow as to leave but a slight opening on the face of the slot which retains the loop.

My device is made, in the ordinary manner, by a die, and out of the ordinary plate-iron used in making cotton-bale ties. It is also in its external dimensions about the usual size of cotton-bale ties.

What I claim is—

1. The employment, in a bale-tie, of the converging slanting cleft C, when the same is so formed that its narrowest point of entrance shall be at its inner end, substantially as shown and described, and for the purpose set forth.

2. The improved bale-tie herein shown and described, consisting of the rectangular metallic plate A, provided with triangular openings B B′, placed in reverse position, as shown, the diagonal brace D, and the inwardly-converging and slanting cleft C, when constructed, combined, and arranged for operation in the manner specified and set forth.

EDWD. P. JONES.

Witnesses:

EMILE H. LEVY,

RUFUS R. RHODES.