

W. A. Jordan,

Bale Tie

No. 106,698.

Patented Aug. 28, 1870.

Fig. 1.

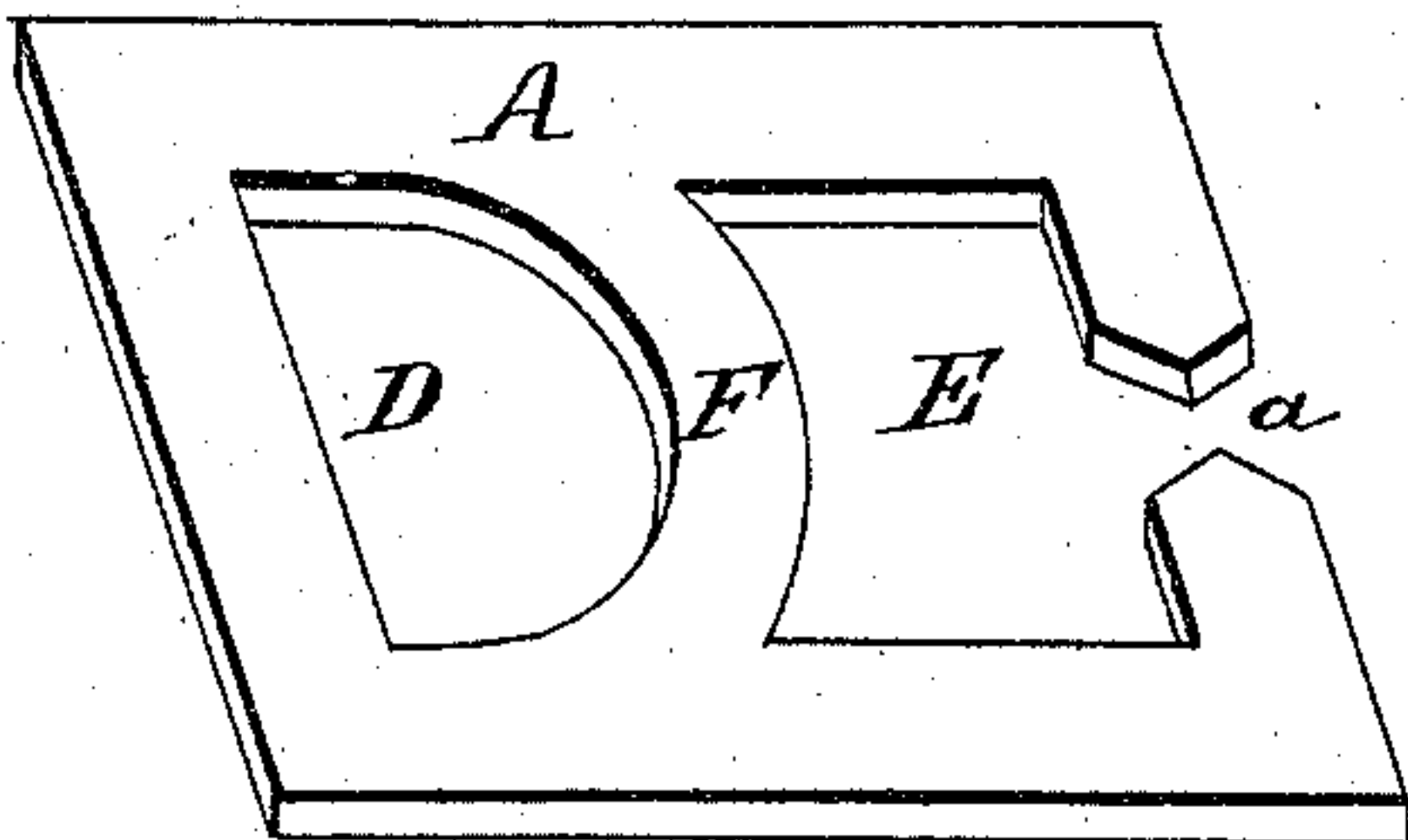
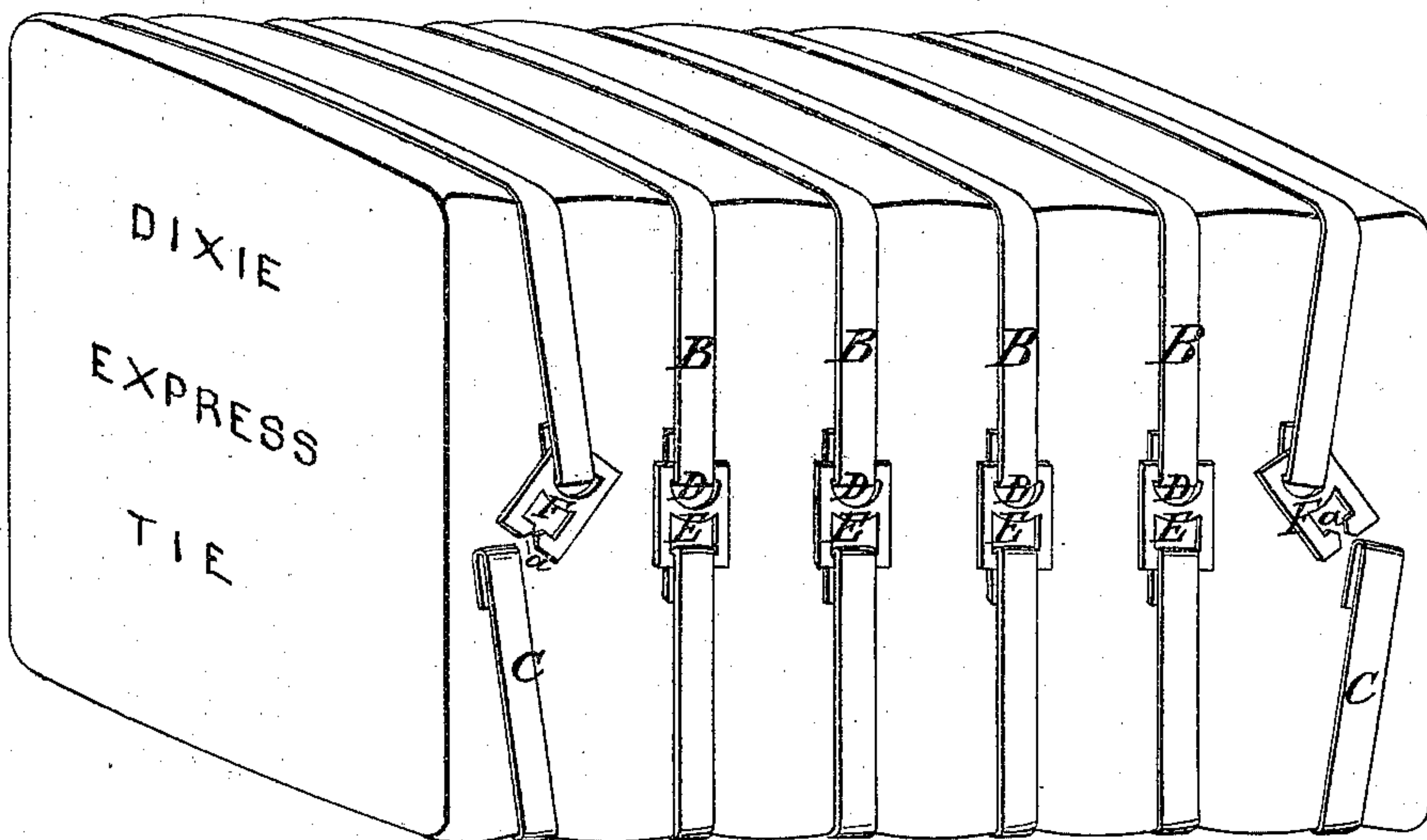


Fig. 2.



Witnesses.

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WILLIAM A. JORDAN, OF NEW ORLEANS, LOUISIANA, ASSIGNOR TO
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IMPROVED BALE-TIE.

Specification forming part of Letters Patent No. 106,698, dated August 23, 1870.

I, WILLIAM A. JORDAN, of New Orleans, Louisiana, have invented a certain Improvement in Cotton-Bale Ties, of which the following is a specification:

My improvement relates exclusively to that class of cotton-bale ties or buckles for fastening iron bands around bales of cotton by securing their ends together, which are provided with a narrow opening or cleft from the outside thereof to an interior or central slot, that at once constitutes the means by which the ends of the bands are attached to one another, and provides proper bearings for said ends at the points of connection.

The object subserved by the narrow clefts to which I have referred is to secure the introduction into the central slot of the last end of the band that is fastened to the buckles after the same has been bent or folded into hook form.

The objects sought to be attained by connecting the last end of the band with the buckle in the above-stated manner are to secure uniformity of length as to all the bands on the bale, to take up the slack in the bands, and to preserve symmetry of proportion and regularity of form in the bale after it is withdrawn from the compressing-machine; but, in consequence of the present defective mode of forming the interior slots, and also of cutting the clefts leading into them, no buckles of this class that have yet been devised accomplish in anything like a perfect manner either of these results.

In order to accomplish them the mechanical construction of the buckle must be such as to fulfill two conditions, neither of which can be fulfilled by any existing buckle. The one is that the buckle may be turned in the hook in the end of the band into which it is already attached about thirty degrees, and no more, without changing the relation of its axis edge to the hook as it is being turned; and the other is that there should be no torsion of the band to diminish its length in getting the hook in the last end that is fastened through the cleft into the slot—in other words, that the cleft shall be so cut or formed that it will be brought in the line occupied by the folded end of the band by the turning of the buckle thirty degrees, or thereabout; but my inven-

tion will be better understood by reference to the drawings, on which it is shown, at

Figure 1, in a detached state, or as when separated from a band, and at Fig. 2 as when connected with, and about being connected with, the bands on a bale of cotton.

On the drawings, A marks the device as a whole, which may be said to consist of a rectangular piece of plate-iron, having plane or smooth surfaces, and being about the ordinary size of a cotton-bale tie, in which two interior slots, D and E, are cut, and also a cleft, *a*, leading from the slot E to the outside of the end of the buckle that is next thereto, in such manner that the said slots D and E, when the latter is viewed in connection with the cleft *a*, and the enveloping parts of the plate present the appearance of the letters which mark them—to wit, D and E—except that the E wants the central short horizontal bar.

The slot D is to receive the first end of the band that is fastened to the buckle, which is inserted therein by passing it through and then folding it down into hook form, as shown at Fig. 2.

The width of the slot D at the fold of the band must be just sufficiently greater than the width of the band to permit of the easy introduction of the latter; and the radius of the curvature of the subtending portions of this slot must be equal to the width of the same where the band enters it, in order that the buckle or plate A may be turned to the right or the left about thirty degrees, as shown at Fig. 2, in order to fulfill the first condition I have mentioned as wanting in existing ties.

The curvature, as shown on the drawings, is very nearly that of a true circle; but it is obvious that the same effect would be accomplished by having it represent sections of two circles drawn from the corners of the slot at which the edges of the band lie on radii equal to the length or width of the slot along the straight part of it that is occupied by the band, when both ends of it are fastened to the buckle.

So, also, it is obvious that if it be deemed sufficient to turn the buckle in one direction only in the hook at the end of the band that is first fastened to it, and which is marked B

on the drawings at Fig. 2, there will be no need to cut away the plate between the point of the curvature at which the moving edge of the band impinges and the corner of the slot occupied by the edge of the band which does not move, which is behind the band, and that hence the slot D might be made of triangular form.

In all these modifications it will be perceived that the form of the slot D will be such that while the hook at the end B of the band may change its position in the said slot at one of its edges to the extent of thirty degrees, or thereabout, it cannot be moved from its bearing throughout its whole width, and that consequently it cannot be disconnected from the buckle under any circumstances whatever except by design.

The slot E, to receive the last end of the band, which is marked C at Fig. 2, presents three straight and one curved side. The width of this slot across the buckle, like the width of the slot D in the same direction, is just sufficiently wider than the band to permit the hook in the latter to come snugly down upon its bearing, as shown at Fig. 2. Through this bearing, which, it will be seen, consists of a straight bar, produced by the cutting of the slot E, I make an opening or cleft, *a*, through which to insert the end C of the bands into the slot E after it has been folded into hook form, as shown by the two outside bands at Fig. 2.

In order to make the insertion without twisting or bending the band, I make this cleft through the bar in an oblique direction, so that when the buckle has been turned to the limit of its vibratory movement it (the said cleft) will come into the same line with the end of the band or hook, as shown by the outside buckles at Fig. 2.

In order that the inclination of the cleft may be in both directions, and thus allow for the insertion of the band whether the buckle be turned to the right or left, I make the said cleft in double or single V form.

The drawing shows a double V form; but I prefer, in order to increase the bearing for the band, that a part of the bar beyond, just sufficient to insert the band edgewise, which forms it, shall be cut away on its inner surface, and that the cleft shall present the appearance

of a truncated V, the narrowest part being at the upper edge of the bearing-bar, and thence widening to the outer edge sufficiently to bring the two sides in line with the end of the band when the buckle is turned to its utmost limit, accordingly as the turning shall be in the one or the other direction. The insertion of the last end of the band in this manner involves the necessary provision of sufficient space between the upper corners of the slot and the point of entry therein of the cleft to allow the whole width of the band to enter into the slot; but as no such space is required, except between these points, I curve the opening or slot E between the upper corners, and thus preserve parallel edges in the central bar, which separates this slot from slot D for most of its length. This adds strength to the buckle, and gives it a more symmetrical and finished appearance.

The slot E, like the slot D, may be made of triangular form whenever it is not deemed necessary to have the buckle turned in both directions; but obviously, in that case, the triangles must be in opposite directions to each other, and there will be no necessity to make the cleft other than a narrow one, of uniform width, cut through the bar at a proper angle to bring it in line with the end C of the band when the buckle is turned in the proper direction to receive this end.

An inspection of the drawing at Fig. 2 will at once indicate the *modus operandi* of my improvement in its application to practice or actual use; and, furthermore, that both the conditions of construction to which I have referred as wanting in all existing ties, and because of the absence of which they are all, to a greater or lesser extent, incapable of accomplishing the object for which they are designed, are present in my device.

What I claim is—

The buckle A, when made of plate-iron, having smooth surfaces, and provided with a slot, D, and a slot, E, into the latter of which a cleft, *a*, enters, when said slots and cleft are formed as herein described, for the purpose set forth.

WM. A. JORDAN.

Witnesses:

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JULIAN NEVILLE.