J. W. DEYO.

Bale-Tie.

No. 162,354. Patented April 20, 1875.

Fig. 1.

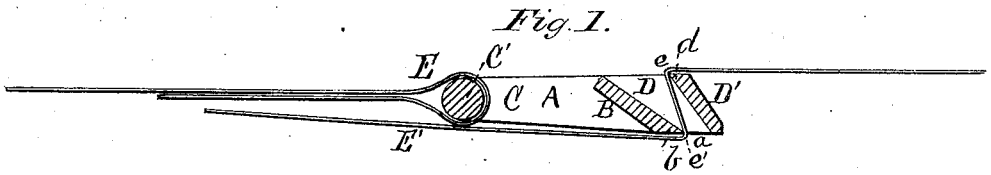


Fig. 5.

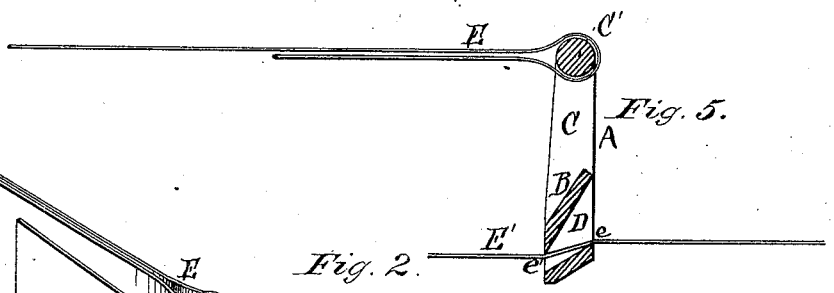


Fig. 2.

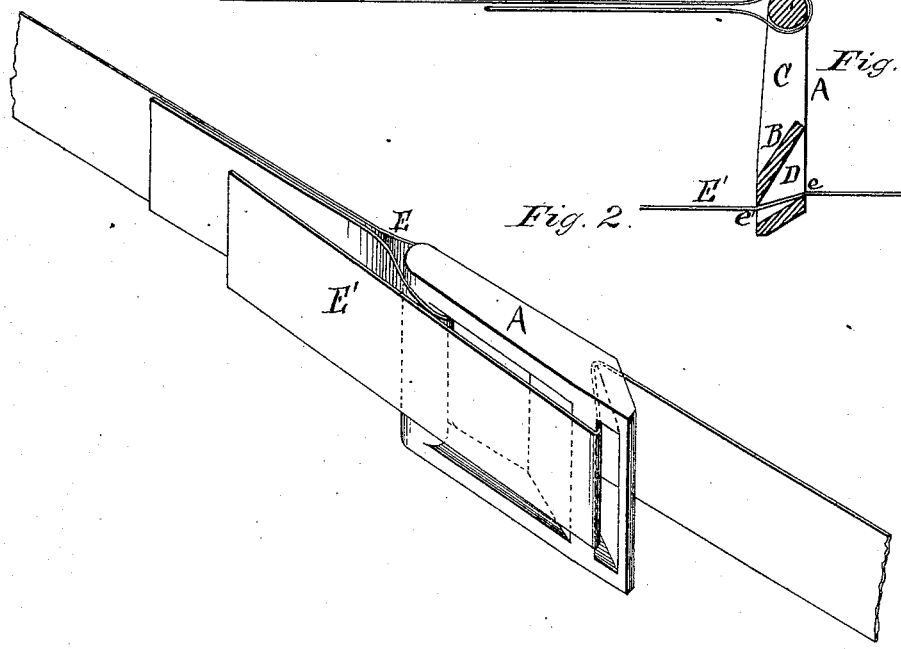


Fig. 3.

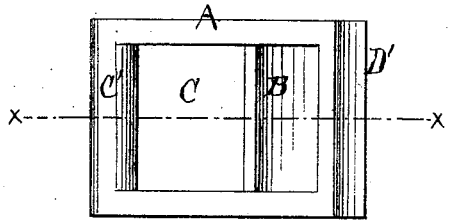
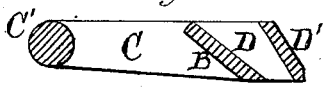


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN W. DEYO, OF BATON ROUGE, LOUISIANA.

IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **162,354**, dated April 20, 1875; application filed March 17, 1875.

To all whom it may concern:

Be it known that I, JOHN W. DEYO, of Baton Rouge, in the parish of East Baton Rouge and State of Louisiana, have invented an Improved Bale-Tie, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a cross-section of the tie, the band being in position. Fig. 2 is a perspective view. Fig. 3 is a top-plan view. Fig. 4 is a cross-section on the line *x x*, Fig. 3. Fig. 5 is a cross-section, illustrating the tie in its operation of locking the band.

The nature of my invention consists in constructing the tie-plate with an oblong slot, and which is divided by a tongue, running obliquely from its upper to its lower surface, and in then giving to the lower edge of the plate a tapering form, the angle of the taper beginning at the point of union of the forward section of the tongue with the lower surface of the lateral walls of the plate, and extending to its rear wall. This tapering form of the walls of the tie gives a bevel-edged bearing to the tongue, and which, in connection with the beveled surface of the wall of the tie, in connection with which it acts, greatly facilitates the automatic fastening of the free end of the band through the griping action of the tongue, as will be hereinafter fully explained.

The construction and operation of my invention are as follows:

A is the tie-plate, and is cast or otherwise formed out of any suitable metal. The tie-plate is formed with an oblong central opening, and which, by means of a tongue, B, is divided into two slots, C D, the outer walls C′ D′ of which provide the bearing-surfaces for the ends of the band, or over which the ends of the band are fastened. The wall C′ is round, or partially rounded, so as to permit of its freely revolving in the oblate hook or loop formed at the permanently attached end E of the band, while the wall D′ is angular and beveled on its upper surface, as shown at *d*. The lower surface of the walls of the tie are tapering in form, and which provides a bevel-edge, *b*, at the lower surface of the tongue. The outer wall D′ and the tongue B are, relatively, so arranged as to give an irregular wedge-shaped contour to the slot D, through which the free end of the band is introduced, in order to be fastened by means of the leverage of the buckle, as the expansive force of the released bale, in its rebound, so draws the band as to throw the buckle down from the position it has been caused to assume, in a line horizontal to the side of the bale, to facilitate the insertion of the free end of the band to a position parallel with the side of bale. The angular surfaces of the tongue B and the wall D′ also greatly tend to facilitate the introduction of the free end of the band, as in being introduced it matters not against which it may strike or impinge, their inclined surfaces serving alike to direct it to the apertures *a* at the lower surface of the slot D, and out through which it is designed to pass. But it will be seen that the band cannot be passed in through the opening on a true horizontal line, but must pass at a slight angle of deflection. The result is, after the free end of the band is introduced, it does not rest in a loose opening, but, on the contrary, rests with the bevel-edge *b* of the tongue and the bevel-edge *d* of the wall directly impinging against the band, and which insures that these bevel-edges shall bite the band, so as to prevent its slipping or drawing out the instant the bale is released, so as to draw back the tie-plate, and thus insure the instantaneous development of its leverage action in a manner that insures that all the slack of the band which has been taken up, and which it is so important should be secured, is held and retained. Now, this positively securing and holding the slack that has been taken up cannot be provided for in a tie-plate that, when thrown in a position horizontal to the side of the bale, permits the band to pass straight through its slot, as the bearing between the walls of the slot is inevitably so loose that the first rebound of the bale, and before the buckle has had time to turn, will cause the band to slip or draw out. The same effect, secured by my formation of the plate, has never before been secured on a flat plate tie, or a tie without projecting lips, and which projecting lips are necessarily objectionable, as they hold the buckle so away

from the bale as to prevent that direct frictional contact between the surfaces of the tie and band which a flat plate insures, and which is so desirable.

The operation of the tie-plate, and its action through the leverage of the plate, in automatically fastening and securing the free end of the band, is as follows: The permanent end E of the band is secured by the well-known oblate hook-fastening, and the rounded wall C of the tie-plate permits of the tie-plate turning or swinging in the looped head of the hook, as it were, on a hinged joint. The bale having been pressed or compressed, the band being around the same, in the usual manner, the band lying or being retained in the grooves or recess of the bed of the box and those of the platen, the tie-plate A is turned down from a vertical to a horizontal position, with the edge of its wall D′ resting against the side of the bale. The free or disengaged end E′ of the band is now pulled and passed through the slot D, as clearly shown in Fig. 5, and is pulled and pushed through until all of the slack is taken up. The pressure of the platen is now released, and the sudden rebound of the bale, due to the elasticity of the cotton, so draws the band as to instantly throw the tie-plate down parallel with the bale, the leverage of the bale, in connection with the beveled surface *d* of the wall, and the beveled edge *b* of the tongue, catching and griping the band, and providing right-angular bearings *e e′* thereon, as clearly shown in Figs. 1 and 2; and thus the free end of the band is most expeditiously and securely fastened, as clearly shown in Fig. 1, and in reversed position in Fig. 2.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

The tie-plate A, having an oblong central opening, and which is divided by an oblique tongue, B, into two slots, C D, and having bearing-walls C′ D′, the bearing-surface of the latter being formed so as to provide a beveled edge, *d*, and the lower section of the tongue being also beveled, as shown at *b*, and having its bearing projecting beyond the vertical line of the bearing of the edge *d*, so as to operate substantially as described, as and for the purpose specified.

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

JOHN W. DEYO.

Witnesses:
O. Z. HUBBS,
A. A. BOGAN.