

E. P. JONES.  
Bale-Ties.

No. 139,675.

Patented June 10, 1873.

Fig. 1.

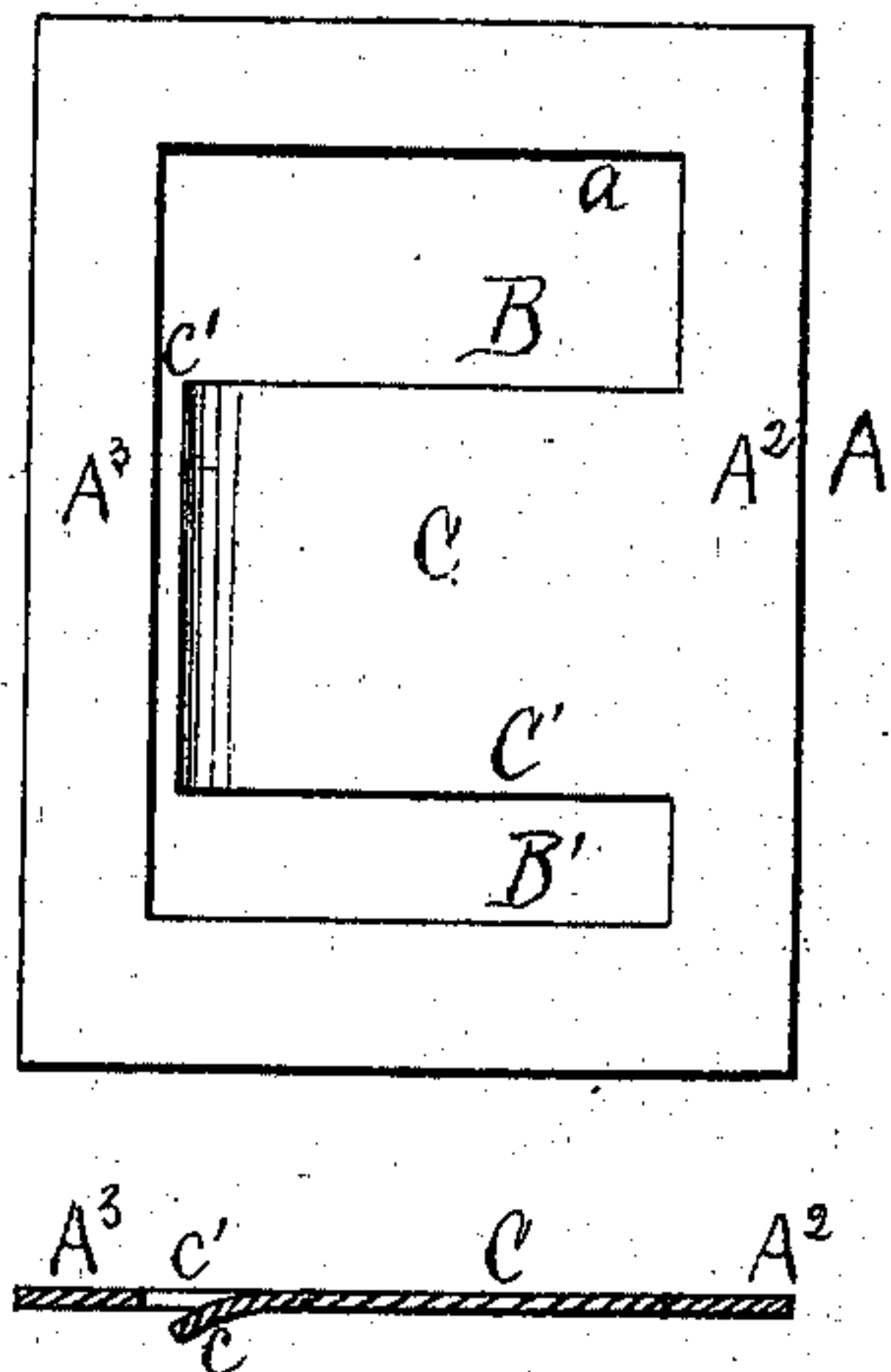


Fig. 2.

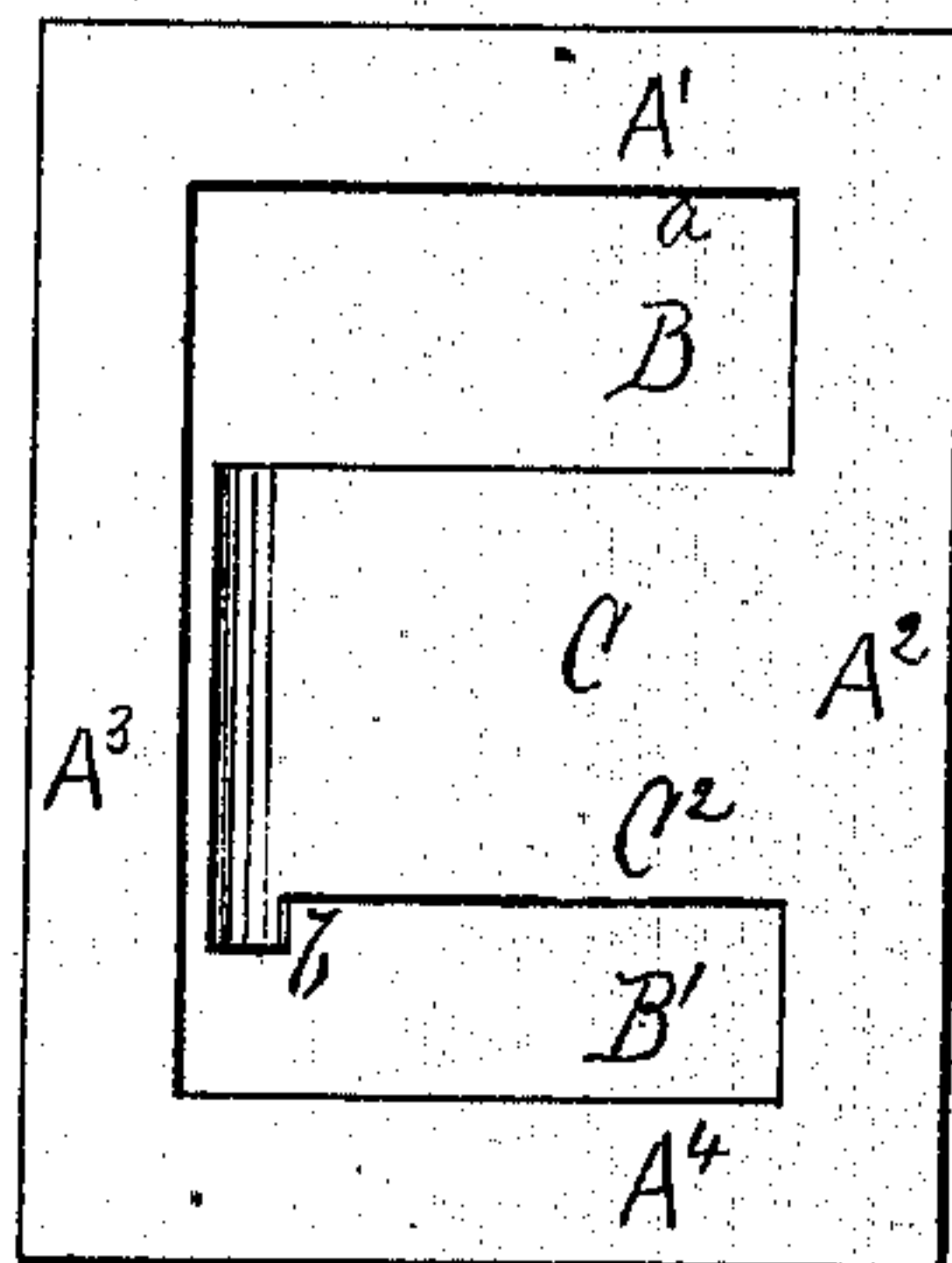


Fig. 3.

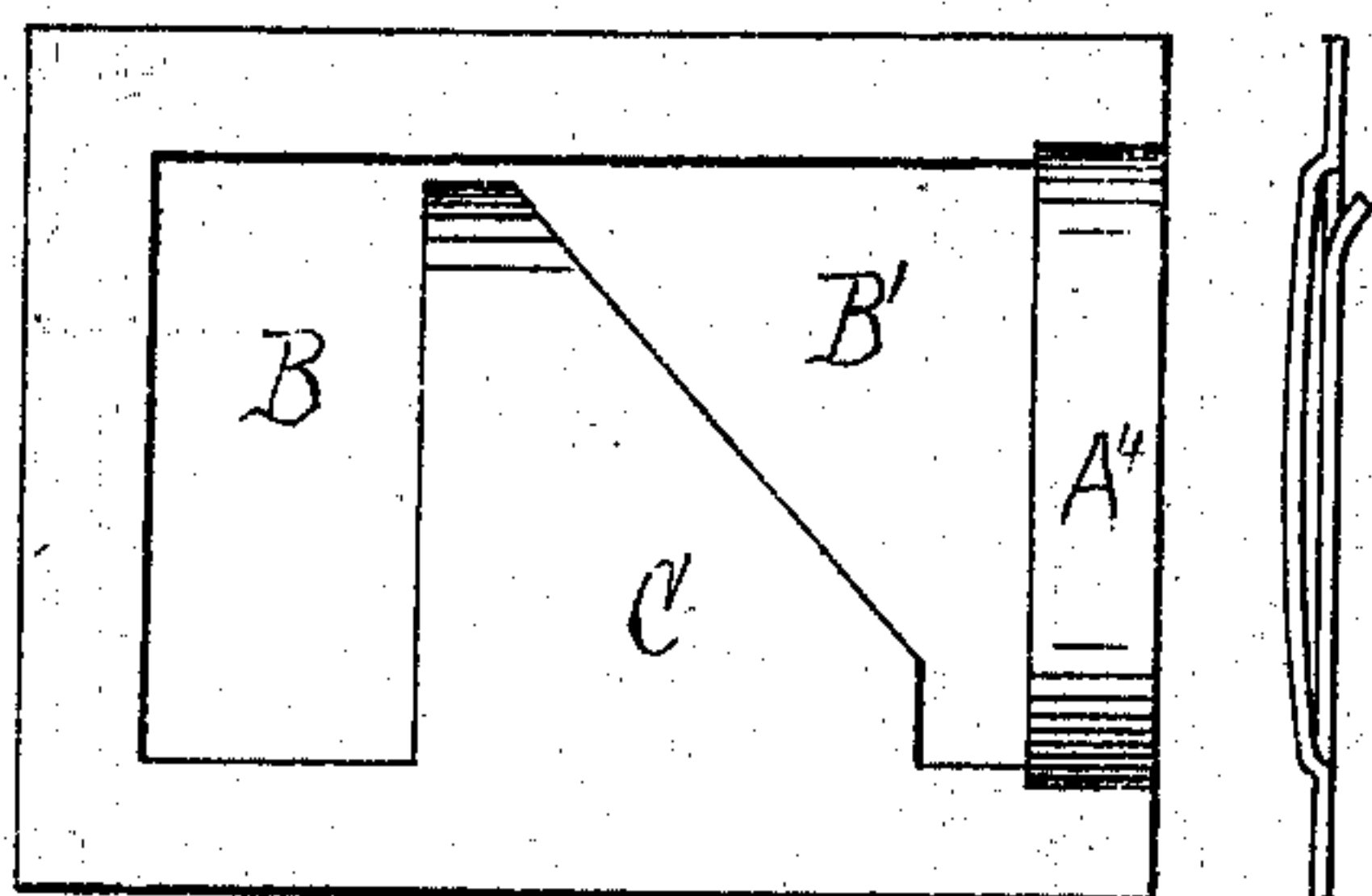


Fig. 4.

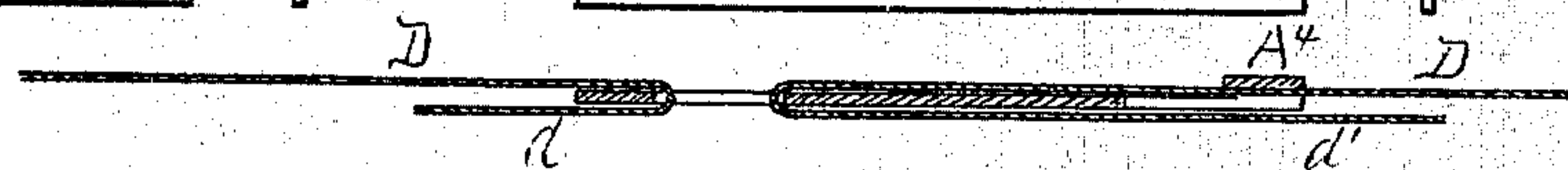
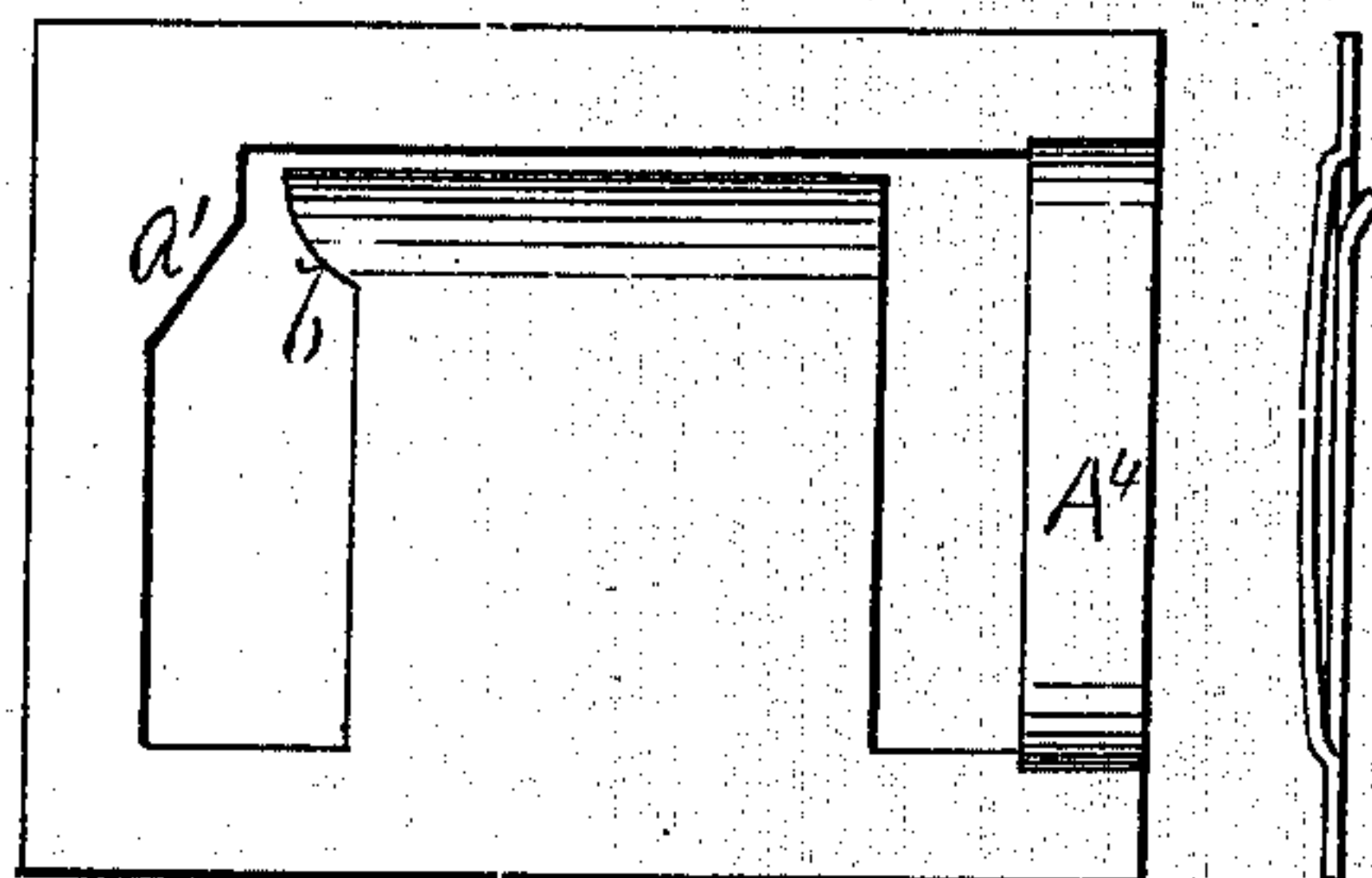
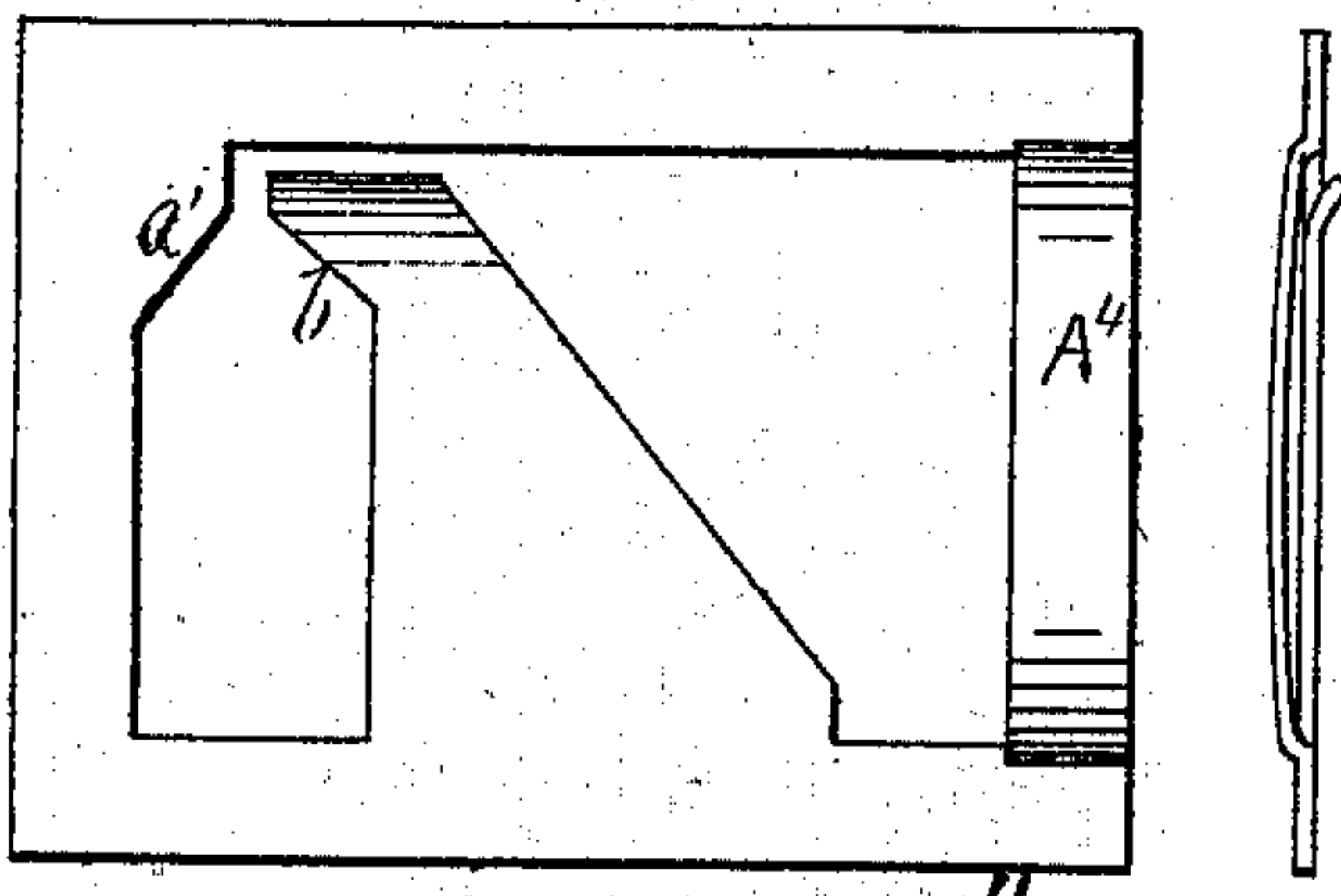


Fig. 5.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

EDWARD P. JONES, OF SHELL MOUND, MISSISSIPPI.

## IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. 139,675, dated June 10, 1873; application filed May 24, 1873.

*To all whom it may concern:*

Be it known that I, EDWARD P. JONES, of Shell Mound, in the county of Sunflower and State of Mississippi, have invented certain new and useful Improvements in Cotton-Bale Ties, 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 is represented plan and vertical sectional views of different forms of the tie.

The object of my invention is to stamp or otherwise manufacture a bale-tie out of a piece of metal of uniform thickness, so formed and constructed as to permit of the entire slack of the band being taken up after the bale has been compressed, and the hook at the end of its free section then introduced and secured without a slit being cut through the wall of the tie for its introduction, or cutting away any portion or portions of said wall so as to provide flanges to retain the hook and prevent its lateral slipping when the band is called upon to resist the expansive force of the bale, thus securing in a bale-tie having a continuous uncut wall all the advantages of the open-slot tie, and, as regards facility of fastening, yet greater advantages. For in my improvement, without turning the tie-plate or in any manner changing its position from that which it occupies after the fastening is effected, the hook at the free end of the band can be introduced in and over its bearing, and on a line exactly parallel therewith, and which, when the bale is freed from the compress, leaves the hook in such position as to be drawn by a straight pull directly over its bearings, it being guided and held thereon by the walls of the tie, and without any sections of said wall being cut away so as to leave flanges or projections for that purpose. I thus avoid all manipulation of the hook in the slot after its introduction, in order to bring it over its proper bearing surface, and render unnecessary any peculiar configuration of the slot to assist in automatically accomplishing the same result. The nature of my invention consists in forming the tie with slots separated by a tongue, the main section of which is level and extends in the same plane, or nearly so, with that of the

wall of the tie with which it is connected. At its outer section, the edge of the tongue is slightly curved or turned down so as to leave an opening between the end of the tongue and the wall of the tie opposite thereto just sufficient to allow of the introduction of the loop or hook edgewise, and which, after being introduced and passed over the tongue, is so held by the walls of the tie as to prevent its lateral slipping, and which renders it impossible for the hook to become detached without manipulation. If desired, the front wall of the tie, or the wall which acts as a clamping-bar for the hook, and which assists in holding the band with like security, whether the outer section of the hook in fastening is turned down under or up over the body of the band, may be slightly bulging from the face of the plate, and which facilitates the hooking of the band over the tongue when the latter extends on exactly the same plane with its bearing-wall, or the wall of the tie with which it is connected.

The construction and operation of my invention are as follows:

The bale-tie A is constructed out of any suitable metal, and by any of the usual processes, is rectangular in form, and is provided with slots or openings B B', and a tongue, C. One end of the band *d* is passed through the slot B, and secured around its wall A', in the ordinary manner, and which is generally done at the factory, and is the condition in which the bands and ties are now generally offered to the trade. These slots or openings B B', may be of any desired form and dimensions. The upper one, B, and around the outer wall A' of which the permanent fastening of the band, as it is termed, is effected, is usually oblong, care being taken that the inner face *a* of the wall of said slot or opening is exactly parallel with the edge C<sup>1</sup> of the tongue, and which is the bearing-surface of the hook or loop *d'* on the free end of the band D. The form of the other opening or slot, B', depends on the form or outline of the tongue, or, more particularly, the shape of its inner edge C<sup>2</sup>, and which forms, as it were, the inner wall of said slot or opening B'. The tongue C may be of any desired form and shape, care being taken that so much of the surface of its edge



C<sup>1</sup> as is to furnish a bearing for the hook or loop *d'* of the band is parallel with the inner edge *a* of the wall A<sup>1</sup> of the slot B. This tongue is connected with the wall A<sup>2</sup> of the tie, and extends out on a line horizontal with the plane of its surface, or nearly so. The outer or free edge of the tongue C is turned down so as to form a flange or shoulder, *c*, and which also leaves an opening, *c'*, between the flange-bearing *c* of the tongue and the under surface of the wall A<sup>3</sup> of the slot, and which opening or space should be just sufficient to allow of the thickness of the band edgewise being passed through. The upper edge C<sup>1</sup> of the tongue may be straight throughout its entire length, as shown in Figs. 1 and 3; or it may terminate in a shoulder or projection, *b*, which may be either right angular, as shown in Fig. 2, curved, as shown in Fig. 4, or simply angular or inclined, as shown in Fig. 5, and in connection with the protruding or angular section *a'* on the wall furnishes a most reliable bearing for the head of the hook or loop *d'*, and which, under certain circumstances, as will hereafter be explained, renders the so forming of the tie as to provide said shoulder *b* and projection *a'* a great advantage, the front wall A<sup>4</sup> of the tie, and under which the sections of the band D which form the hook *d'* are passed, and which acts as a clamping-bar for the same, permitting the free end of the band being fastened with equal security, whether its end is hooked or looped; or its short outer section turned down in contact with the bale or up over the body of the band, as shown in Fig. 2, may be bulged or set off from the plane of the plate, as shown in Figs. 3, 4, and 5, and which recesses, formed by the bulging section of the tie, greatly facilitate the passing of the hook or loop *d'* over the tongue C, especially when said tongue projects on a true line with the surface of the plane of the plate A.

The great advantages of this tie are found in the fact that it is entirely practical to make, as no portion of the wall or solid sections of the tie are to be cut away to provide flanged bearings on the under surface to retain the hook, and no portion of its solid section or the tongue are required to be cut away to an angular or tapering edge to facilitate the introduction of the hook *d'*, and either of which formations renders it almost impossible to stamp the tie, and, if cast, renders it valueless in consequence of the fact that, it not being of uniform thickness and the metal not being evenly distributed, its different sections would not cool alike, and a porous casting, or one having shrink-holes, would be the result; and, as is well understood, such a casting could never resist the sudden and powerful pressure of the expansive force of the bale when released from the compress. Therefore, with my improvement a tie is produced having a continuous and uncut wall, and which is as easy to stamp or manufacture as is the arrow tie or any other well-known tie, and possesses all the advantages of any open-slot tie or a tie

having its wall cleft, with an opening leading into the slot on the walls of which the ends of the band have their bearings, for in no tie of the class referred to can a secure fastening of the band with the short or outer section of its hook or loop turned over on top of the surface of the same be effected, as in mine, and as is clearly shown in Fig. 2.

From the foregoing description, the construction and operation of my improved tie will readily be understood. The band D, with its hook *d'* secured around the wall A<sup>1</sup> of the tie, we will suppose to be in the press-box and around a portion of the bale in the usual manner during the process of pressing or compressing. When this operation is finished, the bulk of the bale having been greatly reduced, there is, of course, considerable slack in the band. This slack is all taken up, and the band is bent at any desired point, and which forms the hook *d'*. This hook is now passed under the wall A<sup>3</sup>, and up through the opening *c'*, into the slot B, and over the tongue C, and on a line parallel with its bearing-edge C<sup>1</sup>, and onto which the pressure of the bale will secure and fasten it, and all danger of its slipping off from the tongue laterally is securely guarded against when the tongue extends on the same plane with its bearing-wall A<sup>2</sup>, by the wall A<sup>3</sup> and the under shoulder *c* of the tongue. When the tie is so constructed that its tongue C extends at a slight angle of inclination from instead of on the same plane with the surface of its bearing-wall A<sup>2</sup>, the distance between the end of said tongue and the wall A<sup>3</sup> is increased, and the opening *c'* is widened; therefore the head of the hook on the edge C<sup>1</sup> of the tongue would not, in case of its lateral slipping, butt so directly against the wall A<sup>3</sup> as when the tongue is flat, and its release without manipulation might be accomplished; but with the projection *a'* and shoulder *b* such a result would be impossible, as when the band is once fastened its becoming unhooked without manipulation would be impossible. But I desire it distinctly understood that under all circumstances I propose to so construct the tie as to not only leave its side walls A<sup>2</sup> A<sup>3</sup> parallel, but always in the same plane, and to relatively so arrange the tongue in connection therewith that the band when once fastened over the tongue shall be prevented from laterally slipping off by the straight edge of the wall A<sup>3</sup> of the tie; consequently the shoulder *b* is provided simply as an additional security.

A tie so constructed as to leave an opening between the edge C of the tongue and the under face of the wall A<sup>3</sup> of the tie, and on a line with the bearing C<sup>1</sup> of the tongue, and which is provided by deflecting the tongue or bulging the wall A<sup>3</sup> of the tie, or both, I do not claim, as it would defeat the object of my invention, and which consists in so constructing the tie that the side wall A<sup>3</sup> shall provide a direct and positive bearing to prevent the bands slipping laterally off the tongue.



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

1. The bale-tie A, having a continuous and uncut wall, slots or openings B B', and the tongue C, having its outer section turned down so as to leave a shoulder or flange bearing, *c*, and an opening, *c'*, either with or without the wall A<sup>4</sup> being bulged, the whole being so constructed and relatively arranged that the tongue shall extend on such a plane with the side walls A<sup>2</sup> A<sup>3</sup> of the tie that the lateral slipping of the band off the tongue shall be prevented by said walls, and without any sections of the same being cut away so as to provide bearing-flanges for that purpose, substantially as described.

2. The bale-tie A, having slots or openings B B', and the tongue C, having shoulders or projections *c b*, either with or without the

wall A<sup>4</sup> being bulged, the whole being so constructed, combined, and arranged as to permit of the fastening and retention of the band, substantially as described.

3. The bale-tie A, having a projection, *a'*, on its wall, as shown, slots or openings B B', and the tongue C, having shoulders or projections *c b*, either with or without the wall A<sup>4</sup> being bulged, the whole being so constructed, combined, and arranged 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.

EDWD. P. JONES.

Witnesses:

EDWIN JAMES,  
JOS. T. K. PLANT.