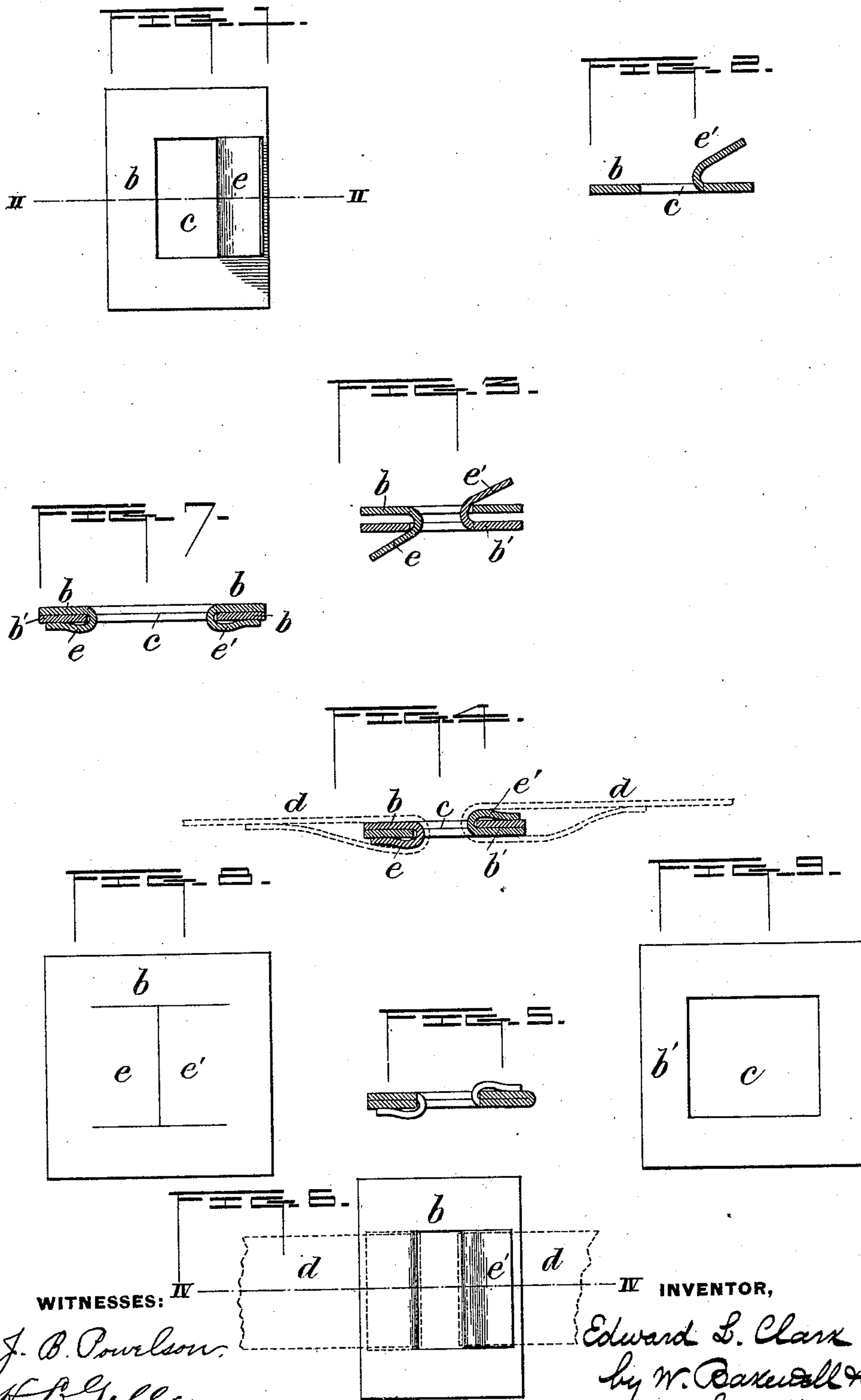


(No Model.)

E. L. CLARK.
BALE TIE BUCKLE.

No. 404,383.

Patented June 4, 1889.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD L. CLARK, OF PITTSBURG, PENNSYLVANIA.

BALE-TIE BUCKLE.

SPECIFICATION forming part of Letters Patent No. 404,383, dated June 4, 1889.

Application filed January 23, 1889. Serial No. 297,331. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. CLARK, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bale-Tie Buckles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of one of the parts of which my improved buckle is made. Fig. 2 is a longitudinal section thereof on the line II II of Fig. 1. Fig. 3 is a longitudinal section of the two parts of the buckle placed together, but not compressed or locked. Fig. 4 is a section of the finished buckle on the line IV IV of Fig. 6. Fig. 5 is a similar section of a modified form thereof. Fig. 6 is a plan view of the buckle shown in Fig. 4. Fig. 7 is a vertical longitudinal section of a modified form. Figs. 8 and 9 are detail views illustrating the manner of cutting and forming the parts of the buckle of Fig. 7.

Like symbols of reference indicate like parts in each.

My invention relates to an improvement in that class of bale-tie buckles in which the ends of the bale-band are confined by means of a slotted iron or steel plate, over the edges of which slot the band is bent. Thus in Fig. 6, *b* represents the body of the buckle, *c* is the slot, and *d d* are the ends of the bale-band, which are inserted through the slot and bent over the edges thereof. Buckles of this sort are made in various forms, some of which, for example, have a narrow slot extending from the central slot to the lateral edge of the buckle, so as to afford means for lateral insertion of the bale-band.

My invention is general in its scope, and relates to buckles of this class of whatever form they may be, although for the sake of illustrating my invention I have shown only that form of buckle which is provided with a central slot or opening and no lateral communicating slot. Buckles of this class have heretofore been made of a single plate of metal in which the slot has been cut, and have been subject to the disadvantage that the small bearing-surface afforded by the edge of the slot to the bale-band is apt to tear

the latter unless it is made of very heavy material. For the purpose of avoiding this it has been proposed to form the central slot of the buckle not by cutting out a piece, but by cutting it only on three sides and bending the cut portion or lip over on the buckle, so as to leave a rounded edge as a bearing for the band. While this, however, serves in a measure as a protection against tearing of the band, it is of little use for the purpose, and is decidedly disadvantageous, in that the cut and folded portion is apt to tear out from the buckle at the corners and to ruin the buckle itself. If the buckle be made of metal thick enough to resist this tearing action and to afford a substantial bearing for the band, it is impossible to bend over the lip without breaking or at least seriously weakening it.

My invention is designed to obviate all these objections, and to afford a buckle cheap in cost of manufacture, strong, and not apt to break or injure the bale-band.

As shown in the drawings, Fig. 4, the buckle is made of two plates or leaves *b* and *b'*, each of which has a cut and reflexed lip *e e'*, forming a central slot or hole in the middle of the plate. (See Figs. 1 and 2.) In order to form the finished buckle, two plates, made as just described, are interlocked, as shown in Fig. 3, and their lips are then bent down upon the buckle, as shown in Fig. 4, so that the lip *e* of the plate *b* shall lie upon the plate *b'* and the lip *e'* of the plate *b'* shall lie upon the plate *b*. In this manner the plates are held firmly together, the cut edges of the central slot are covered by the lips, and broad rounded bearing-surfaces are provided for the bale-band. The manner of connecting the ends of the bale-band by means of the buckle is clearly shown in Fig. 4. When in use, the great strain exerted by the compressed bale upon the band falls upon the rounded portions of the bent lips, which form the bearing-edges, but can exert no tearing action thereon, since each of the lips is supported, the lip *e* being supported by the plate *b'* and the lip *e'* by the plate *b*. The strain is therefore transmitted longitudinally to the plates and does not tend in any way to tear the lips, and because of this supporting and holding out of the lips I am enabled to make the parts of the

buckle of comparatively thin metal and yet obtain all the necessary strength. The supporting of the lips of the buckle forms one of the main features of my invention. It may, however, be accomplished in other ways from that which I have described. Thus in the modification shown in Fig. 7 both the lips *e* and *e'* form parts of the plate *b* and are bent over the edges of the plate *b'*, and other forms of my invention will suggest themselves to those skilled in the art. The manner in which the plate *b* is cut to form the lips of the buckle of Fig. 7 is shown in Fig. 8. The plate *b'* is formed with a central hole or slot punched therein, as shown in Fig. 9.

In the form of the invention shown in Fig. 5 the buckle, instead of being made of two separately-formed leaves, is made in a single piece, which is doubled or folded upon itself, so as to constitute the two leaves. Otherwise the buckle is made in the same manner as the form illustrated in Fig. 4.

The advantages of my improvement will be appreciated by those familiar with the disadvantages of former buckles. It is very strong and durable, and it enables the band to endure a far greater strain in use than is

possible when other forms of buckle are employed.

I claim—

1. A bale-tie buckle having a slot for receiving the bale-band, lips bent over the edges of the slot to form bearing-surfaces for the band, and supporting-surfaces which hold out and support the lips, substantially as and for the purposes described.

2. A bale-tie buckle consisting of slotted superposed leaves and a reflexed lip forming the bearing-surface of the bale-band in the slot, substantially as and for the purposes described.

3. A bale-tie buckle consisting of two superposed leaves, each of which is slotted and is provided with a lip, the lip of each leaf being bent over the edge of the slot of the other leaf and forming a bearing-surface for the band, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 17th day of January, A. D. 1889.

EDWARD L. CLARK.

Witnesses:

W. B. CORWIN,

THOMAS W. BAKEWELL.