

(No Model.)

F. T. WARBURTON.

BALE TIE.

No. 370,508.

Patented Sept. 27, 1887.

Fig. 1.

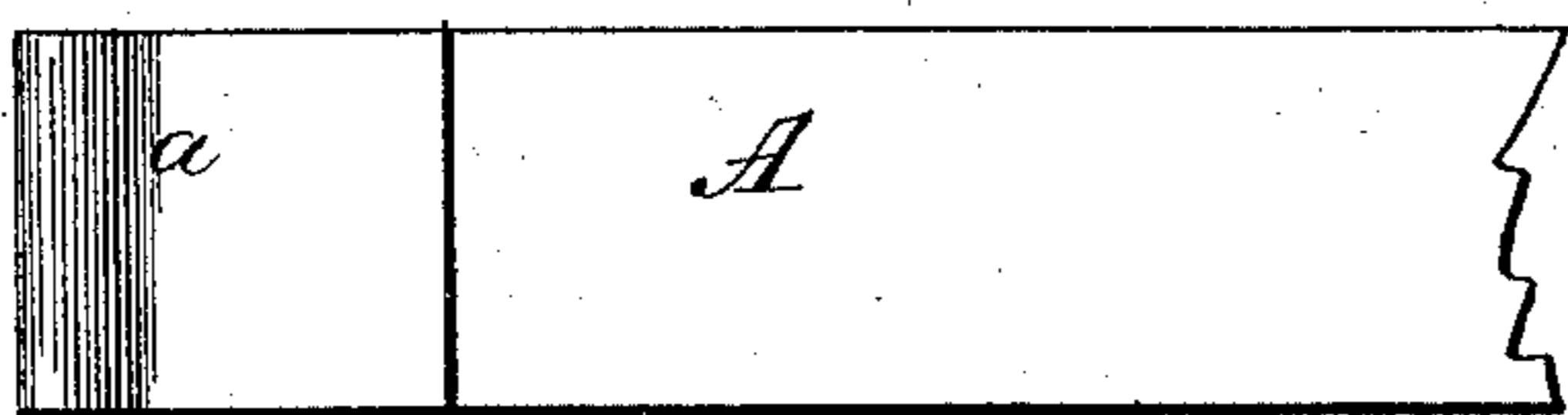


Fig. 2.

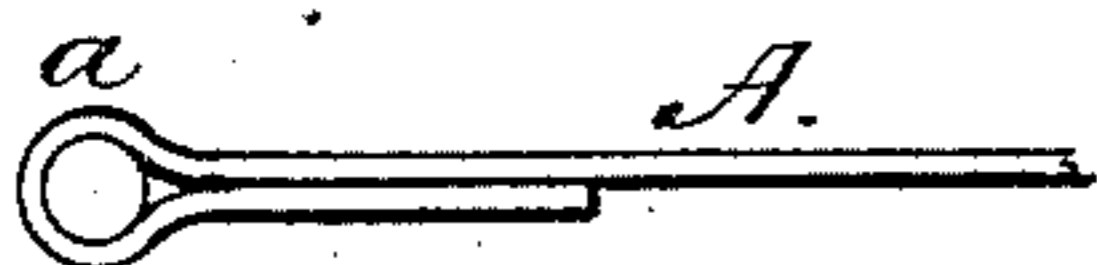


Fig. 3.



Fig. 4.

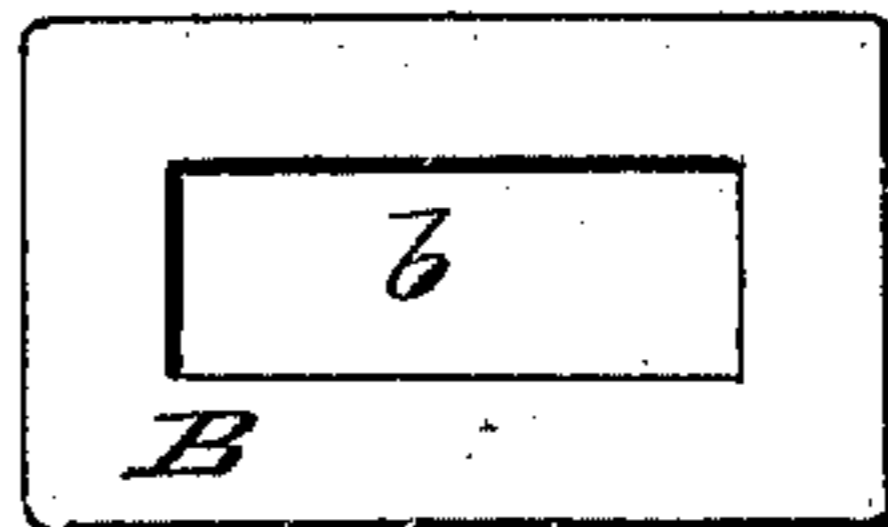


Fig. 5.

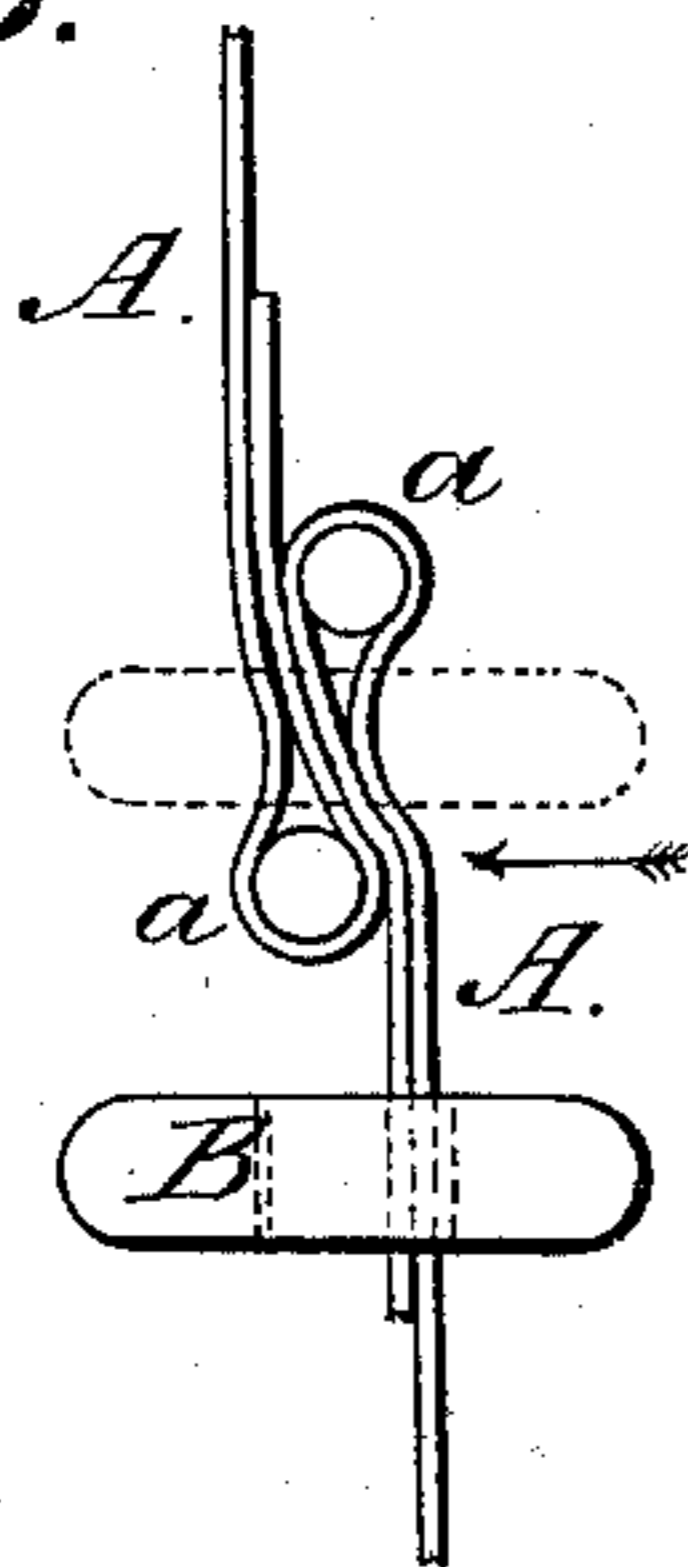


Fig. 6.

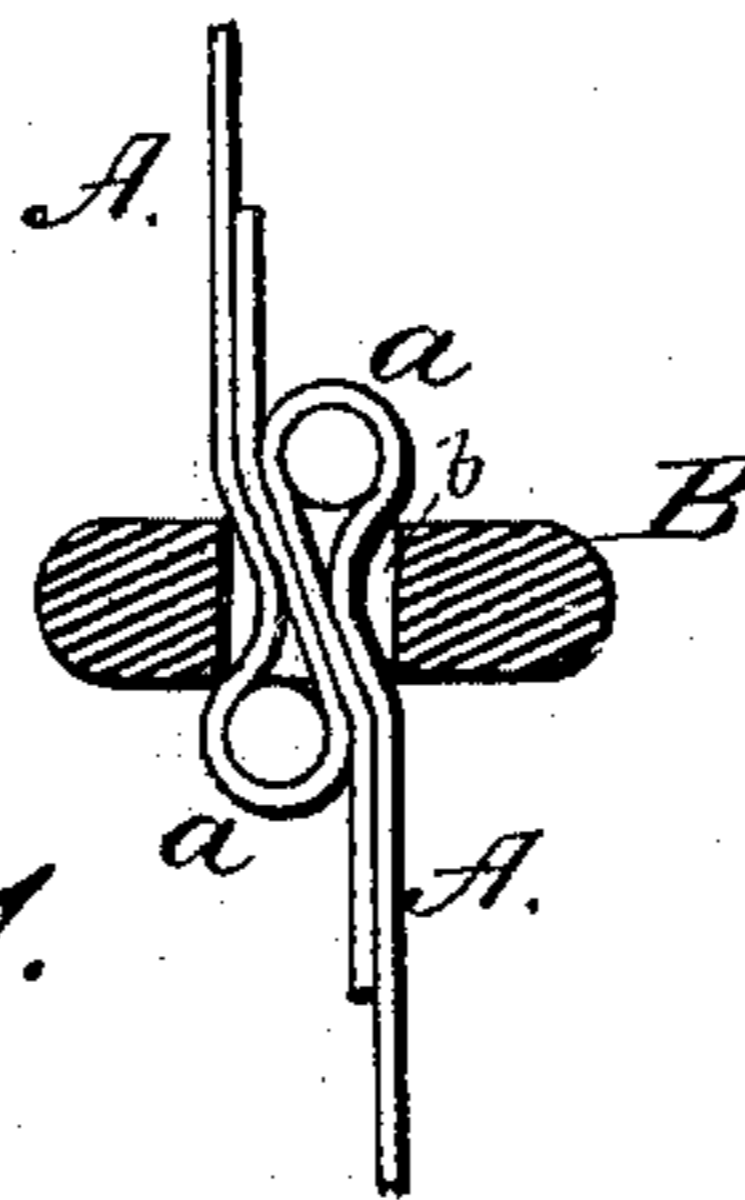
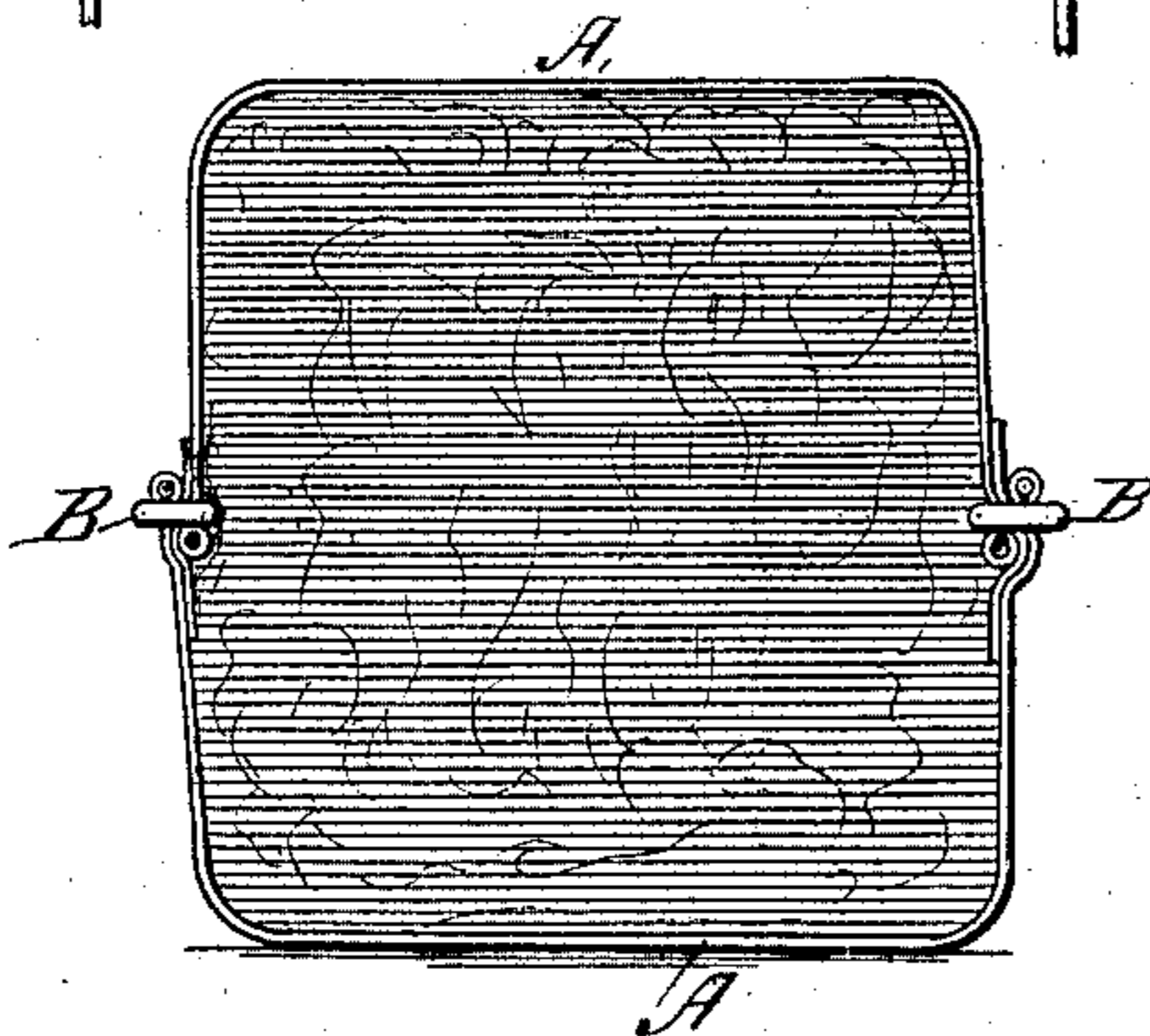


Fig. 7.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FREDERICK TYNTE WARBURTON, OF NEWPORT NEWS, VIRGINIA.

## BALE-TIE.

SPECIFICATION forming part of Letters Patent No. 370,508, dated September 27, 1887.

Application filed August 12, 1886. Serial No. 210,739. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK TYNTE WARBURTON, a subject of Her Britannic Majesty the Queen of Great Britain and Ireland, and residing at Newport News, county of Warwick, State of Virginia, in the capacity of British vice-consul, have invented an Improvement in Bale-Ties, of which the following is a full and clear specification.

My invention is an improvement in the class of bale-ties in which the ends of the bale-bands are not attached to the buckles or keepers, but are passed through a narrow slot in the latter and doubled or bent back on themselves to form enlargements which prevent withdrawal of the said ends from the keeper when the bale expands.

Heretofore the slots of buckles forming part of ties of this kind have generally been made flaring at their ends to accommodate the doubled ends of the bands; but this construction is objectionable, since the band ends do not come in contact, but become tightly wedged in such enlarged portions of the buckle-slots, thus rendering their disengagement difficult. Furthermore, in no case, so far as I am aware, have the buckle-slots been made of such dimensions as to allow a doubled end of the band to be passed through it along with the body of the band. In my invention these objections are overcome and marked advantages obtained, as will be hereinafter set forth.

In the accompanying drawings, Figures 1 and 2 are respectively side and plan views of one of the ends of a bale-band doubled or turned back on itself. Fig. 3 is a side view of a modified construction of the ends of the bale-band. Fig. 4 is a face or plan view of the buckle or keeper. Figs. 5 and 6 illustrate the practical use of the invention. Fig. 7 is an end view of a bale having my improved tie applied thereto.

The bale-band is made in two parts or sections, A, of equal length, each slightly exceeding one-half the circumference of the bale when compressed. The ends of these parts or sections are connected by a keeper or buckle, B, on each side of the bale, as shown in Fig. 7. The ends *a*, Fig. 2, of each band-section A are doubled over a round iron rod whose length equals the width of the band. I show a modi-

fication in Fig. 3 by which the end *a'* of the band is thickened by doubling or folding it on itself. The buckle or keeper B, Fig. 4, is an iron or steel frame having an oblong rectangular opening, *b*, whose upper and lower sides are parallel.

The practical use and operation of my invention are as follows: In practice the several band-sections are secured (by any preferred means) to the respective unchanneled upper and lower platens of the press. The buckles or keepers B are slipped on the ends of the band-sections A, which are placed on the lower platen. The unpressed cotton bale is then placed on the lower platen and compressed until reduced to the size required. The ends of both upper and lower band-sections, A, are now bent toward each other and brought together, as shown in Fig. 5, so their ends overlap. The buckles B are next moved up over the end of the upper band-section until it occupies a position between the two band ends *aa*, as shown in dotted lines, Fig. 5. Then, when the compress is relaxed, the expansion of the bale draws the band ends *a* into the position shown in Fig. 6—that is to say, the said ends are drawn as far into the ends of the keeper B as practicable, so that the ends bear on each other and on the adjacent angles at the ends of the buckle-slot. Thus the ends of the bands do not enter the buckle-slot *b* so as to become wedged or fastened therein by friction, and hence no difficulty is experienced in detaching the band ends from the buckle when required. Further, the fact that the keeper B can be passed over a single end *a* of a band-section A and the body of the other section when lapped, as shown in Fig. 5, yet cannot pass over the two ends *aa* when lapped, as shown in Fig. 6, confers important advantages, since it enables the band ends to be doubled (by machinery) preparatory to the pressing operation, and thus obviates the delay and labor incident to doubling the ends after passing through the buckle, as has been heretofore necessary in using ties of this general class. In other words, my buckle-slot being twenty-eight sixty-fourths of an inch wide, (in its narrowest measurement,) and the combined thickness of the band and band end *a* (see arrow, Fig. 5) but twenty-four sixty-fourths, while

the two band ends *a a* together equal thirty-six  
sixty-fourths of an inch, it is obvious the  
buckle may be slid along on the body of a  
band and over a single band end *a*, but not  
5 over both band ends, whereas heretofore the  
slots of buckles employed in connection with  
bands whose ends were thickened in this man-  
ner have been made too narrow to permit this  
operation. It will therefore be apparent that  
10 in the latter case the band ends must be passed  
through the buckles before being doubled,  
while my invention permits the band ends to  
be prepared in advance by means of a machine  
specially adapted for the purpose. By my in-  
15 vention, therefore, the ends of the band sec-  
tions may be quickly and easily buckled to-  
gether.

In baling with the ordinary press and long  
bands three men are required on each side of  
20 press; but with my improvement but one man  
is required on each side. Thus I save two-  
thirds of the labor incident to the operation  
of pressing as ordinarily practiced.

I do not wish to be understood as claiming

a buckle having a wide slot with parallel sides, 25  
since I am aware such have been used flatwise  
in connection with bands whose ends were  
looped and fastened around opposite sides of  
said buckles.

Some improvements described in this appli- 30  
cation are described and claimed in my appli-  
cation, Serial No. 245,347, filed July 26, 1887.

What I claim as new is—

The combination, with the buckle B, having  
a transverse slot with parallel upper and lower 35  
sides, of the band-sections A, having enlarged  
ends *a*, said slot and band ends being propor-  
tioned to each other, as hereinbefore specified—  
that is to say, the slot being wider than the  
combined thickness of the body of the band 40  
and one of its thickend ends *a*, but narrower  
than the combined thickness of both said ends  
*a*, as and for the purpose specified.

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Witnesses:

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