A. JINGELS.
Bale-Tie.

No. 204,737. Patented June 11, 1878.

Fig. 1.

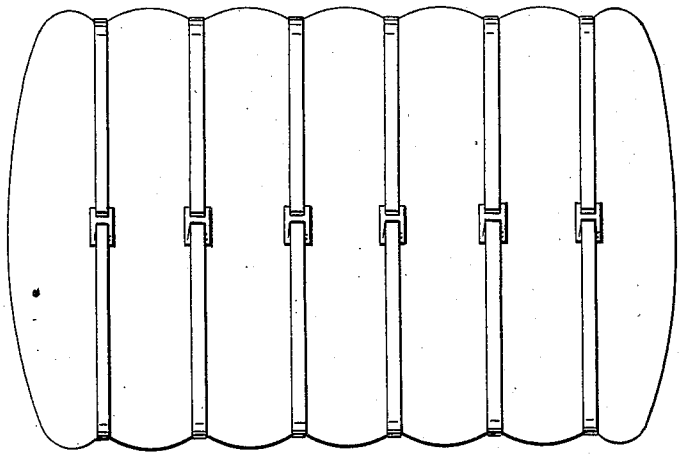


Fig. 2.

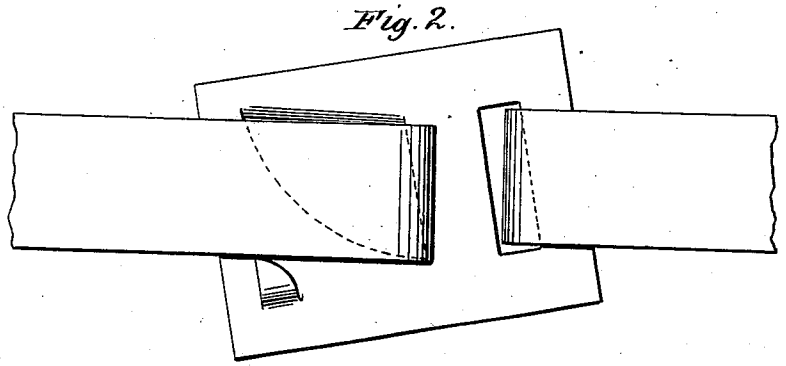


Fig 3.

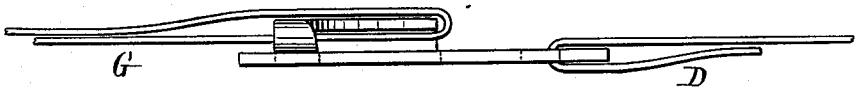
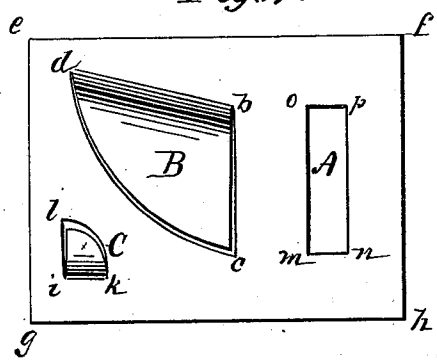


Fig. 4.



Witnesses:

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E. A. Dick

Inventor:

August Jingels

by A. Pollok

his attorney.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

AUGUST JINGELS, OF VICKSBURG, MISSISSIPPI, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO JOHN D. TINNEY AND DAVID MAYER, OF SAME PLACE.

IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **204,737**, dated June 11, 1878; application filed May 13, 1878.

To all whom it may concern:

Be it known that I, AUGUST JINGELS, of Vicksburg, in the county of Warren and State of Mississippi, have invented a new and useful Improvement in Bale-Ties, which improvement is fully set forth in the following specification.

My invention relates to the construction of bale ties or buckles for use in connection with ordinary iron hoops or bands, having for its objects simplicity and cheapness of construction, facility and ease in application and use, security against becoming unfastened, and non-liability to cut the bale; and my said invention consists in the peculiar formation and combination of loops and catches or braces, as will more fully appear from the following description of a bale-tie made in accordance with my said invention.

Referring to the accompanying drawings, Figure 1 represents a bale compressed, hooped, and secured by means of six of said ties. Fig. 2 represents, on an enlarged scale, a plan view of a tie or buckle about engaging the ends of the hoop. Fig. 3 is a side view of the tie or buckle, with the ends of the hoop in place and secured. Fig. 4 is a plan view of the tie or buckle disconnected from the hoop.

The tie or buckle may be made of wrought or boiler iron or brass. It may be cut from bars of a given width, and then shaped by hand or machinery, or cut, stamped, and formed at one operation by means of dies or presses, when hot or cold, in a manner well known to manufacturers of iron and brass.

The tie or buckle, when made, is a quadrangular plate, having three openings, as follows:

First, a slot, A, which is of a length slightly in excess of the width of the hoop. It is applied near one end of the plate. Its width should be such as not only to admit of the convenient insertion of the hoop, but also allow the plate being shifted with respect to the hoop, as shown in Fig. 2. It may be advisable to make the slot a little wider at the end *m n* than at *o p*, in order not to weaken the plate by making the slot in its entire length sufficiently wide to enable one to rotate the plate, as before indicated.

Second, an opening, B, formed by an angular cut along the line *b c d*. The line *b c* should be parallel to and of the same length with the line *p n*. The line *c d* may be straight; but I prefer to make it curvilinear, so as to give more body and strength to the point *c*. This line is extended, so that its terminal point *d* may come nearer the line *e f* than *b* or *o* and *p*. The line determined by the two terminal points *b* and *d* will therefore be at an angle with respect to line *e f*, as shown in Figs. 2 and 4. The portion of the metal between the cut *b c d* is bent, by being struck up in suitable dies, to occupy a plane parallel to the plate, at such distance above therefrom as will easily admit between it and the plate the thickness of a hoop.

Third, an opening, C, formed by a triangular cut, *i k l*, similar to the opening B, but much smaller, and located near the corner *g* of the plate, the line of junction *i k* being parallel to lines *m n* as well as to *g h*, but somewhat nearer the latter line than the line *m n*.

The metal C is raised from the plate in like manner as that of opening B.

Having thus described the construction of the tie or buckle, its operation will be readily understood to be as follows:

The bale being ready to receive the hoops cut to the proper length, they are placed in position, with their ends bent into loops to receive the ties or buckles. The ends of the hoops, or loop ends D and G, are placed facing the bale. One, D, of these loops is thus made to engage the slot A in the tie, which is then turned at an angle, so that the other looped end, G, of the hoop may engage the projecting triangular blade B, yet clear the projecting triangular blade C. When this is done, the looped end G being in a plane between the under side of the two blades B and C, and the upper side of the tie-plate, the latter will be forced back into its normal position by the strain exerted upon it by the hoop, the ends of which will now firmly clasp the tie against its opposite edges *b c* and *p n*. In righting itself the catch or blade C will ride over the loop end G, which will thus become caught and locked between the two projecting blades C and B. In this position the tie cannot be

removed or changed short of rupturing the hoop, for the greater the strain upon the hoop the more firmly and securely is it held by the buckle.

Having thus described my said invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. A bale-tie in which the looped ends of the hoop are held, respectively, in a slot cut out of the body of the rectangular tie-plate and over a blade cut out of the same tie-plate by incision, but raised above said plate, so that the end engaging said blade shall be entirely above, while the other end shall be partly above and partly below, the plate, as shown and set forth.

2. The hook-blade formed by the incision of the plate along two lines forming an angle, the terminal points of the lines of incision being in such relation as to admit of the loop end being inclined with respect to the line of tension, substantially as shown and set forth.

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

AUGUST JINGELS.

Witnesses:
PERCY C. FISHER,
H. C. MCCATE.