

J. P. RADLEY.

BALE-TIE.

No. 169,920.

Patented Nov. 16, 1875.

Fig. 1.

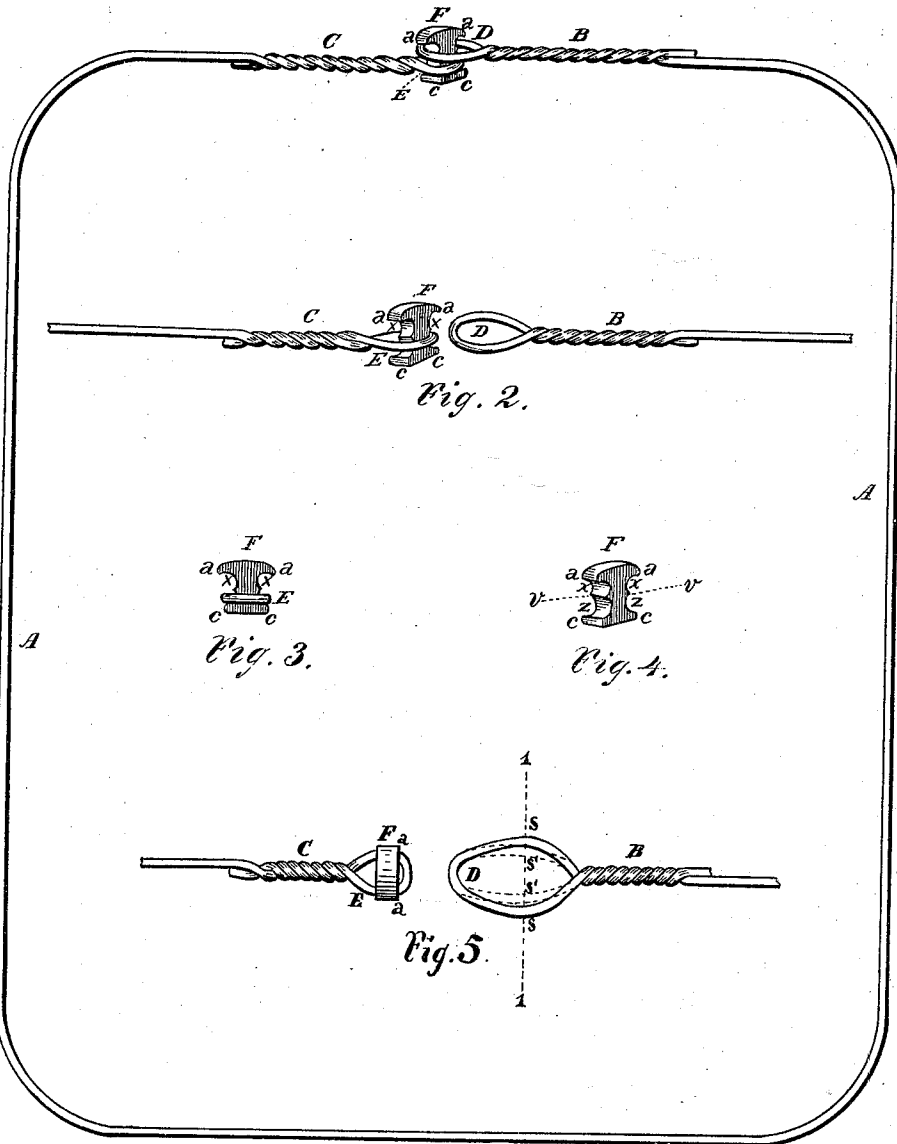


Fig. 2.

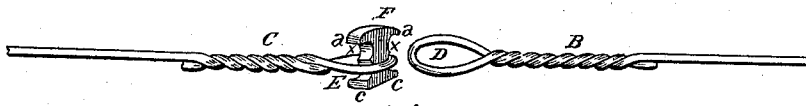


Fig. 3.

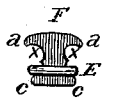


Fig. 4.

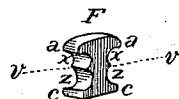
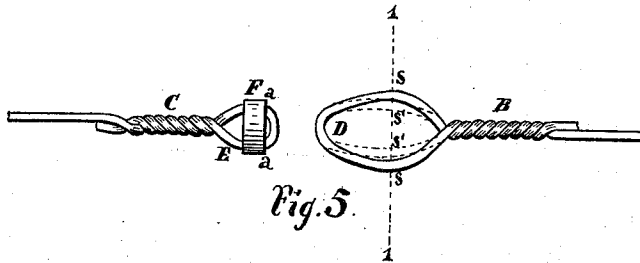


Fig. 5.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **169,920**, dated November 16, 1875; application filed October 14, 1875.

To all whom it may concern:

Be it known that I, JOHN P. RADLEY, of the city and county of Albany, State of New York, have invented certain Improvements in Bale-Ties; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawings forming a part of this specification, in which—

Figure 1 represents a perspective view of the tie when the ends are connected. Fig. 2 is a perspective view of the same when disconnected. Fig. 3 is an end view of the button end of the tie. Fig. 4 is a perspective view of the button when detached from the wire. Fig. 5 is a plan view of the several parts, with the detachable loop shown disconnected, and in its original form, before strain has been exerted on the same.

This invention is an improvement on a bale-tie previously invented by myself, and is intended to obviate the necessity of bending up the grasping end of the button-loop; and consists in the combination, with the grasping-loop, of a button having upper and lower projecting lips, with a double or duplex recessed shank or neck intermediate between said projecting lips, and separated by projecting points, whereby the button will be held from shifting, and also permit of its engaging with the detachable loop.

The object of this invention is to form a tie in which the strain exerted on the ends will be evenly borne by both loops engaging with the button in straight lines of direction, and the button be preserved from shifting in its grasping-loop, to permit the detachable loop being readily dropped into its place below the upper projecting lips of the button.

To enable others skilled in the art to make and use my invention, I will proceed to describe it in reference to the drawings, and the letters of reference marked thereon, the same letters indicating like parts.

In the drawings, A represents a wire, from which the tie is made. B and C are the opposite ends intended to be connected. One end, B, of the wire is turned back on itself to form the loop D, which I denominate the "detachable loop," and is secured by twisting in the usual manner. The other end, C, is also turned back on itself, and twisted with a loop,

E, which I denominate the "grasping-loop," formed forward of the said twist. The said grasping-loop is intended to grasp and securely hold the button F, which is to engage with the detachable loop D, made with the opposite end of the tie. The button F consists of a metal piece punched from a piece of band-iron, having upper projecting lips *a a*, and lower projecting lips *c c*, and a duplex or double recess or notches, *x x x x*, intervening between lips *a* and *c*, and forming a double shank or neck, in which the notches *x x* are separated by the projection *v*, so that each portion—the upper projecting lips and the lower ones—may be made to have each their own shank or neck for engagement with a loop. The detachable loop D is made with the form shown in Fig. 5, in which the space between the sides *s* and *s* is broader than at the ends of the loop, so as to readily receive the extension of the button having the projecting lips *a a* at dotted line 1, while the contracted end may be received by the recessed shank or neck *x x*, and held by the said projecting lips from being slipped out of its space from beneath the said lips. When the elastic force of the compressed bale is exerted on the tie the strain exerted on the detachable loop will cause the sides *s s* to become contracted at dotted line 1, and be so drawn as to assume the positions of dotted lines *s' s'* in Fig. 5, in which the space between the sides of the said loop will be rendered so narrow as to prevent the lips *a a* from possibly passing through.

Being thus constructed the said button may be securely held by the grasping-loop E from shifting, as the projection *v v* securely maintains the said loop from being slipped up to the upper projecting lips *a*, while the lower lips *c* prevent the button being drawn out of the grasping-loop, and the detachable loop may be readily made to engage with the said button, and be received in the notches *x* of the said button, and above the grasping-loop.

By this form of button I am enabled to dispense with the bent form of the end of the grasping-loop, as employed in my former invention, while at the same time the strain of the detachable loop is transferred from the said bent-up form of loop before employed directly to the neck of the button, and the but-

ton is made to endure the entire strain from the loops, which draw in right lines of direction from the button when the elastic force of the compressed bale is exerted.

By the peculiar form of the detachable loop the button is readily received, and the sides are rendered capable of contracting when the strain of the elastic bale is exerted, so as to cause the space between the same to become so narrow, and prevent the lips *a a* of the button from drawing out from said loop.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

The button *F*, constructed of malleable metal, with projecting lips *a a* and *c c*, separated by a double or duplex shank or neck, *x z*, having projections *v v* between the recess of said duplex shank or neck, in combination with the grasping-loop *E*, permanently secured to the said button, and the detachable loop *D*, capable of receiving the lip end *a* of said button at a point remote from the end of said detachable loop, substantially as described.

JOHN P. RADLEY.

Witnesses:

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