

No. 672,977.

M. L. CRONENBERGER.
BALE TIE.

Patented Apr. 30, 1901.

(Application filed Jan. 26, 1901.)

(No Model.)

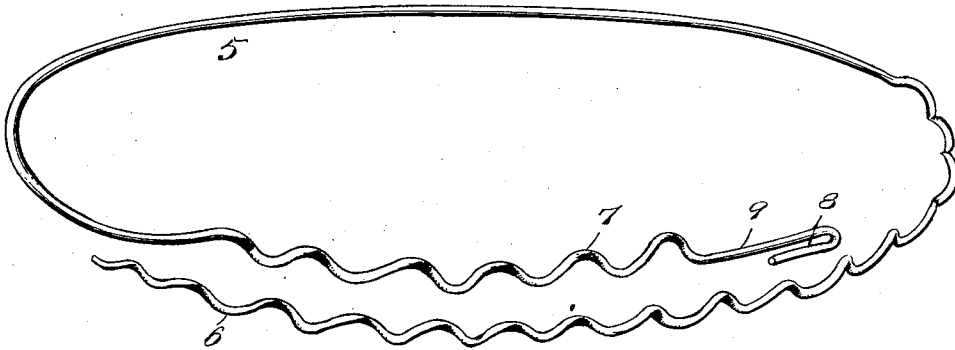


Fig. 1.



Fig. 2.

Witnesses

Oliver M. Simpson
Geo. H. Chandler

M. L. Cronenberger Inventor
By *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

MICHAEL L. CRONENBERGER, OF ATTICA, OHIO.

BALE-TIE.

SPECIFICATION forming part of Letters Patent No. 672,977, dated April 30, 1901.

Application filed January 26, 1901. Serial No. 44,897. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL L. CRONENBERGER, a citizen of the United States, residing at Attica, in the county of Seneca and State of Ohio, have invented a new and useful Bale-Tie, of which the following is a specification.

This invention relates to bale-ties; and it has for its object to provide a simple, cheap, and efficient construction of tie that will be applicable to bales of a variety of kinds, which will be easy of application and removal, and which will be most efficient in its holding qualities, further objects and advantages of the tie being evident from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in both views, Figure 1 is a perspective view showing the complete tie in disengaged position. Fig. 2 is an elevation showing the engaging portions of the tie in engaged positions.

Referring now to the drawings, the present tie is formed of a single piece of wire 5, which may be of any suitable diameter and which is formed, preferably, of what is known as "hard steel," this hard-steel wire having a distinct status in the art, and it has a decided spring quality. Both ends of the wire 5 are twisted into helical form, as shown at 6 and 7, the extremity of the end portion 7 being bent to form a hook 8, the bill of which lies so close to the stem that to engage the hook over the wire 5 the latter must be forced between the bill and stem to spring the bill outwardly. The wire directly adjacent to the hook is straight, as shown at 9.

In applying this bale-tie to a bale the tie is passed around the bale in the usual manner and the hoop 8 is engaged over the portion 6 of the wire in a direction for the bill of the hook to project outwardly. The hook is engaged with a helically-wound portion of the wire, as shown, and the extremity of the portion 6, with which the hook is engaged, is then wound around the portion 7 in the rear of the hook 8, so as to lie interiorly thereof, as illustrated in Fig. 2.

With this construction it will be seen that not only does the hook 8 engage the wire and hold tightly to prevent slipping of one end of the wire from the other and expansion of the tie, but each convolution of one end of the wire where it engages each convolution of the other end of the wire acts also to hold tightly and further prevent slipping of one end of the wire from the other. Furthermore, by the use of the spring-wire the tie may be drawn outwardly from the bale to permit of winding the end of the portion 6 around the portion 7, and when the tie is released it returns to place to hold the bale firmly. Also it will be seen that the tip of the bill of the hook is engaged behind a convolution of the opposite end of the wire, so that the harder the wires are pulled the more firmly does the end of the bill engage said convolution, so that the hook is held securely against straightening out and disengagement of the parts is prevented.

What is claimed is—

1. A bale-tie consisting of a wire having one end portion formed as a helix and the other end portion formed as a hook for engagement with the convolutions of the helix interchangeably, the bill of the hook being of a length to engage behind the inner face of the convolution with which the bight of the hook is engaged, to lie between said convolution and the stem.

2. A bale-tie consisting of a band having helical end portions and a terminal hook, said hook being adapted for engagement with the convolutions of the other end interchangeably and the convolutions of the adjacent lying portions of the band being adapted to lie one within the other, the bill of the hook being of a length to engage behind the inner face of the convolution with which the bight of the hook is engaged, to lie between said convolution and the stem.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MICHAEL L. CRONENBERGER.

Witnesses:

J. V. RISSE,
ALVA SUTTON.