(No Model.)

P. K. DEDERICK.

ADJUSTABLE BALE TIE.

No. 586,839. Patented July 20, 1897.

Fig. 1.

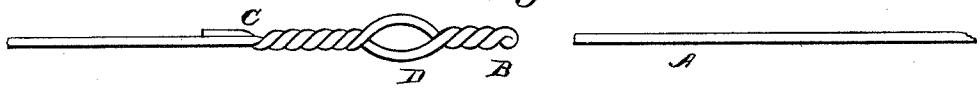


Fig. 2.

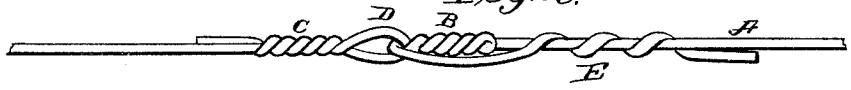


Fig. 3.

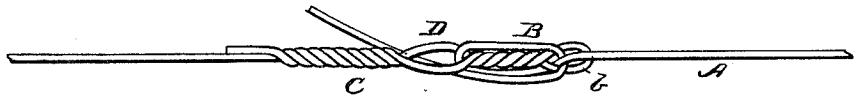


Fig. 4.

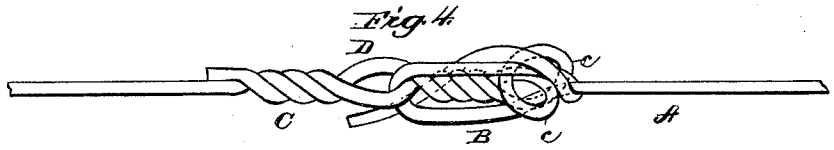


Fig. 5.

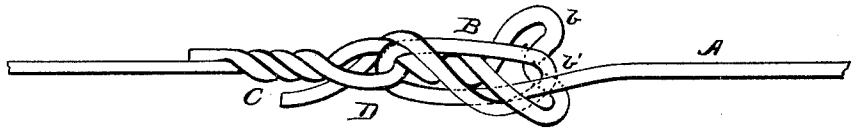
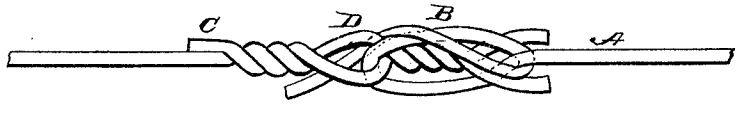


Fig. 6.



Witnesses.
J. M. Fowler Jr.
Alex. Stewart

Inventor
Peter K. Dederick,
By Church & Church
his Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF LOUDONVILLE, NEW YORK.

ADJUSTABLE BALE-TIE.

SPECIFICATION forming part of Letters Patent No. 586,839, dated July 20, 1897.

Application filed May 15, 1893. Serial No. 474,345. (No model.)

To all whom it may concern:

Be it known that I, PETER K. DEDERICK, of Loudonville, in the county of Albany and State of New York, have invented certain new and useful Improvements in Adjustable Bale-Ties; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in adjustable bale-ties, and has for its object to provide a simple, inexpensive construction which will nip or pinch the adjustable member when strain is brought upon the band and thereby effectually lock the two parts together and prevent any retrograde movement or slipping of the adjustable member.

Referring to the accompanying drawings, Figure 1 illustrates the simplest form of the invention with the coöperating ends for a band separated. Fig. 2 is a similar view with the ends united. Figs. 3, 4, and 5 illustrate different forms of tie and different constructions of the extreme end of the clamping member which may be employed. Fig. 6 illustrates a clamping member formed of two separate pieces twisted together and with the adjustable member secured thereto.

Like letters of reference in the several figures indicate the same parts.

It has always been an object in the manufacture of bale-ties to provide a tie which may be adjusted to suit bales of different size, or to tighten the band around the bale, and to provide a means for clamping and holding tightly the free or adjustable end; and hence in a large class of ties it has been customary to provide a V-shaped opening through which the adjustable end was passed and caused to bite in the sharp or acute angle of the opening through which it passed, and in some instances this opening has been formed by bending sharply or doubling back on itself a section of the wire forming a part of or held by the opposite end of the band.

My present invention relates to this class of tie, the object being to provide a device of the most simple construction and minimum cost which will pinch or nip the adjustable member between its members both by the forward movement of the adjustable member itself when under strain and by the closing of the members constituting or which go to form the clamping member.

Referring now to the said drawings, the letter A indicates the free end or adjustable member of a bale-band, which may be of any desired form, such as ordinarily employed, and B the coöperating end, which is formed into or otherwise connected to the clamping member. This clamping member in the preferred construction is formed by doubling the end C back on itself and twisting the parts B and C together, with the exception of a small intermediate section, which is open or left open, and constitutes the eye or clamping member proper, (lettered D.) This eye or loop D, it will be noted, is located in the "twist" of the wire, so to speak—that is to say, the members C and D are so firmly twisted both in front of and in rear of the said eye or loop D that the strain of the expanding bale will be insufficient to untwist them, and hence when the adjustable member A is passed through the loop D and bent back on itself, as illustrated in Fig. 2, and, if desired, wrapped around the body portion at E, it will be caught at the bend in the acute angle formed by the two members B and C, where they emerge from the front twisted portion and separate to form the loop, and when the strain of the expanding bale draws the band taut the adjustable member will be nipped firmly in said angle of the loop and held against slipping.

It will be observed that the members forming the loop are caused to close toward each other when the band is strained, thus pinching the adjustable member all the more tightly, and at the same time if, as in the preferred construction, the adjustable member and clamping member are formed of wire of the same weight there is little tendency or danger that they will be cut at the clamping-point sufficiently to cause a separation of the parts.

Obviously the idea of employing a pinching-loop in the twisted portion of a wire bale-band end with the twists of sufficient rigidity to prevent opening out when the band is un-

der strain is susceptible of many modifications, and in Figs. 3, 4, 5, and 6 I have illustrated forms of the invention which, while they are covered specifically in my applications, Serial Nos. 462,880 and 472,969, nevertheless illustrate the invention in this case to great advantage.

In Fig. 3 the clamping member is formed with an end loop *b*, while the remaining portion is just as before described, and in tying this form the adjustable member is passed through the end loop, then back through the clamping-loop, doubled back on itself and wedged beneath the portion passing through the end loop, and finally tucked beneath the band in any suitable manner. This gives a double clamping action, inasmuch as the clamping-loop pinches it at the bend and as the band straightens out under strain the portion passing transversely across the end loop is bent down and pinched tightly.

In Fig. 4, instead of forming an end loop the end of the clamping members are bent into two loops *c c*, which together constitute a forked end, and the adjustable member having been passed through the clamping-loop is doubled back on itself and passed down through the fork, where it is bent around the body of the band, brought up, and tucked under in any suitable manner.

In Fig. 5 a fork is formed in the end of the clamping member by bending in the outer end of the loop *b* of Fig. 3, as at *b'*, and in making the tie, or tying off, the adjustable member is passed through the end loop, thence through the clamping-loop, thence down through the fork around the body of the band, and the extreme end is tucked under to secure it in place.

In Fig. 6 the clamping member is formed with a fork end by twisting two independent pieces of wire together, and the tie is made in substantially the same manner as described with relation to Fig. 3.

In all of these last-mentioned forms of the invention it will be particularly noted that the connecting of the end of the clamping member or twisted portion to the body of the band has a special advantage in that such twisted portion is prevented from getting out of alinement, and the adjustable member is thereby held securely in the extreme end of the clamping-loop, even should the sides of the clamping member be slightly uneven as to length or strength, and, furthermore, in such forms the strength of the additional bend in the adjustable member is secured without increasing the cost or intricacy of the tie appreciably.

Other changes will at once suggest themselves to those skilled in the art wherein a loop formed in the twist of the end of the bale-band with a twisted portion in front of such loop of sufficient strength to prevent opening out when under strain may be employed, and hence I do not wish to be limited to the specific forms herein shown and described.

Having thus described my invention, what I claim as new is—

A wire bale-tie having a duplication of relatively rigid strands at one end firmly twisted together with an eye formed in the twisted portion and the end beyond the eye projecting in substantial alinement with said eye, and an adjustable end passed through the eye doubled back on itself and bent into engagement with the body of the wire; substantially as described.

PETER K. DEDERICK.

Witnesses:
F. X. CLEMENT,
W. A. SKINKLE.