(No Model.)

# J. D. COON.

## WIRE BALE TIE.

No. 456,647. Patented July 28, 1891.

*Fig. I.*

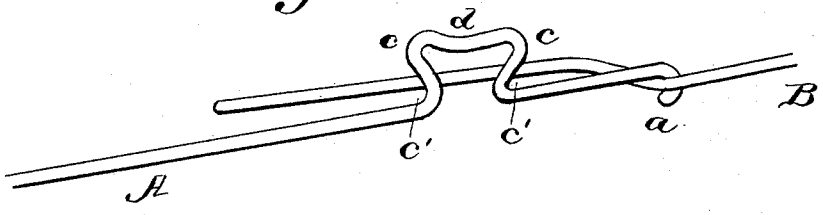



*Fig. II.*

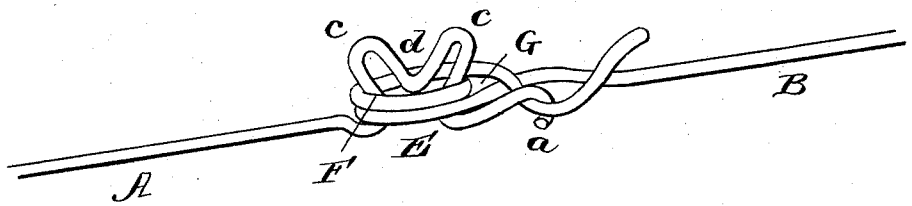



*Fig. III.*

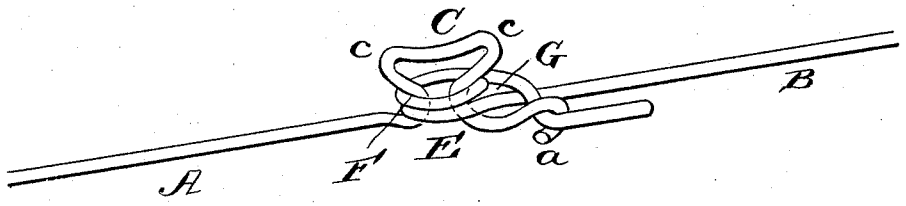
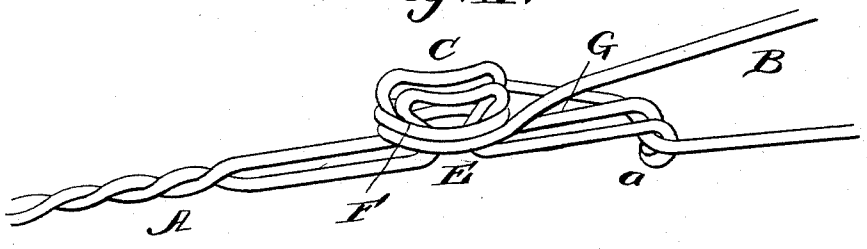



*Fig. IV.*




Witnesses:
J. B. McGirr.
William C. Belt.

Inventor:
John D. Coon
By Edson Bros
Attys.

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

# UNITED STATES PATENT OFFICE.

JOHN D. COON, OF NATHROP, COLORADO.

## WIRE BALE-TIE.

SPECIFICATION forming part of Letters Patent No. 456,647, dated July 28, 1891.

Application filed March 19, 1891. Serial No. 385,601. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN D. COON, a citizen of the United States, residing at Nathrop, in the county of Chaffee and State of Colorado, have invented certain new and useful Improvements in Wire Bale-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in wire bale-ties; and it has for its object to provide a simple and effective tie which can be easily adjusted to any size of bale and fastened in a rigid and substantial manner; and, further, to obviate the disadvantages incident to those bale-ties which button a loop to some part of the wire or require the end of the wire to be put through a loop.

With these ends in view my invention consists in a hook arranged on one end of the wire, adapted to engage with that part of the wire inclosing the bale, and in the rear of this hook is a projecting stud having lateral prongs, which form a seat beneath the top of the stud, and around which the other end of the wire is looped or wound and inserted under the hook which engages said wire.

To enable others to more readily understand my invention, I have illustrated the same in the accompanying drawings, in which—

Figure I is a view showing the tie in its primary stage. Fig. II illustrates the tie after it has been completed. Fig. III shows the tie after it has been submitted to a strain, and Fig. IV is a view of the same knot with the head thereof composed of two strands of wire.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates one end of the wire, which has its extreme end bent to form a hook *a*, adapted to engage with the other end B of the wire after it has encircled the bale. On the end of the wire A in rear of the hook *a* is formed a stud C, which is manipulated to form a flat surface on top, and to produce the laterally-projecting prongs *c c*, which form, together with the main part of the wire, two seats *c' c'* around the base of the stud. This stud is so arranged that the prongs extend or lie in the direction of the wire itself, and the top of said stud has a slight depression *d* at or about its center which prevents the stud from being bulged or forced vertically, and thereby slip through the loop of the wire B. When the tie is completed, as shown in Fig. 2, and the loops drawn tightly around the stud, the depressed portion *d* will be forced down between the laterally-projecting prongs *c c*, and it will thereby prevent the latter from being drawn to form a vertical projection which might allow the loops to easily slip over it, and thus loosen the tie; but the depressed portion *d* operates to hold the prongs *c c* in a position at an angle to the wire A and the loops, and prevents the loops from slipping over it. After the other end B of the wire has been looped around the bale the hook *a* is engaged therewith and the wire B is then looped twice around the stud C, the second loop E being arranged beneath the first loop F, and the wire is then passed through the loop G, formed by the wires A and B, between the hook *a* and the stud C. By thus making the second loop beneath the first loop it will hold itself in better position when the tie is subjected to strain, as shown in Fig. 3. This tie, constructed as before stated, thus forms a safe and efficient tie for bales, which will not become loosened, nor will it draw out when the wires are strained apart; but the more strain put on the wires the stronger the tie is made and the liability of its becoming loose is greatly lessened.

In Fig. 4 I have shown a different form of the tie, which consists, essentially, in having the end A made of double wire or two strands of wire, and the rest of the tie is substantially the same as when a single strand is used.

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

1. In a bale-tie, the wire A, having the hook *a* and the stud which is of greater width at its upper portion than at its base, and the wire B, looped around the stud below the enlarged upper portion thereof, the hook *a* of the wire A being fastened or looped to the wire B, substantially as and for the purpose set forth.

2. In a bale-tie, the wire A, having the hook

*a* formed on the end thereof and adapted to be fastened to the other wire B, the stud arranged in rear of said hook on the wire A and having the lateral prongs and the depressed portion between the same, and the wire B, having its loops drawn tightly around the stud below the prongs thereof, and the end of said wire being then passed through the loop formed by the two wires and between the hook and the stud, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN D. COON.

Witnesses:
A. V. P. DAY,
G. E. SWAN.