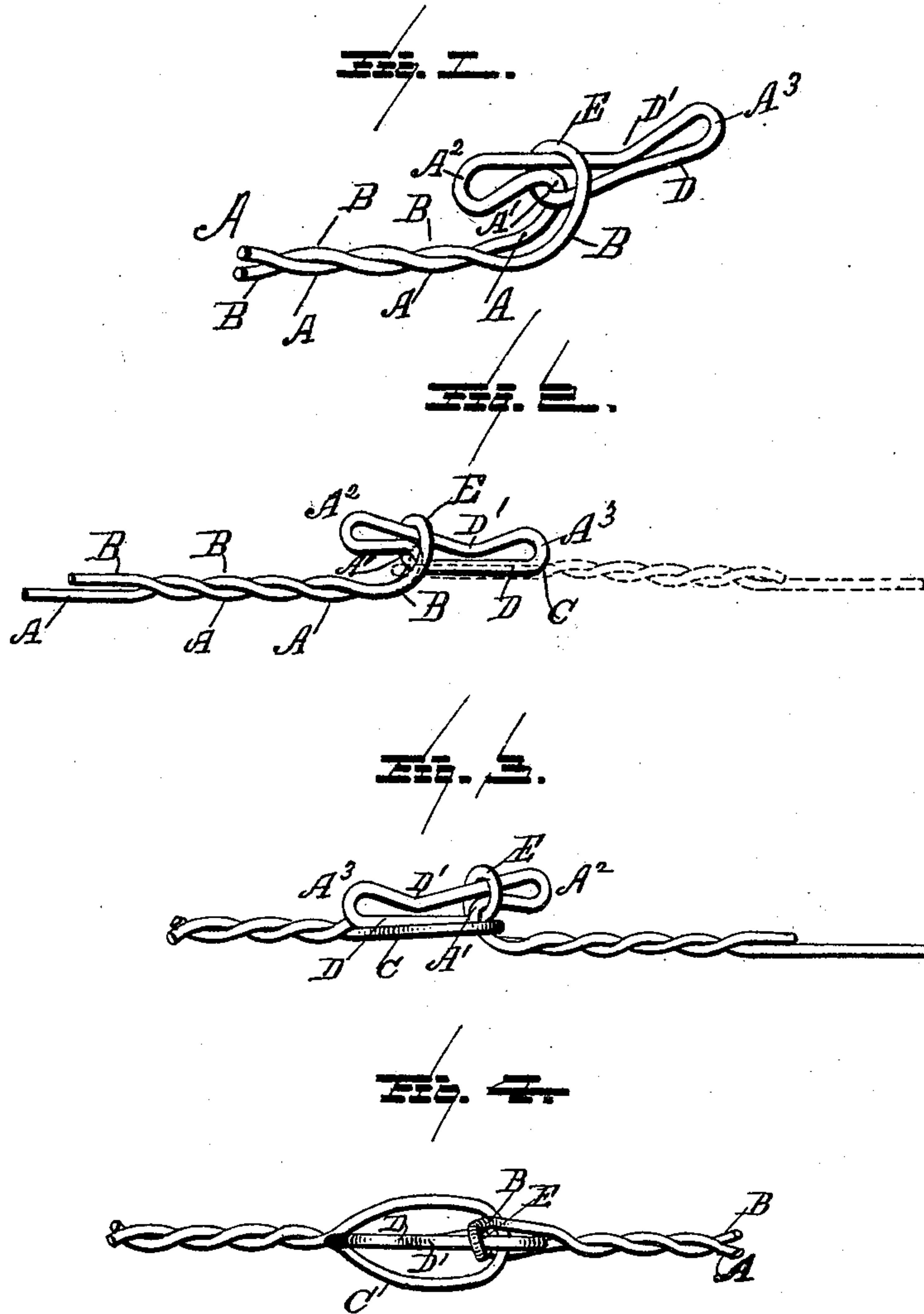


(No Model.)

W. A. KILMER.
BALE TIE.

No. 448,964.

Patented Mar. 24, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. KILMER, OF NEWBURG, NEW YORK.

BALE-TIE.

SPECIFICATION forming part of Letters Patent No. 448,964, dated March 24, 1891.

Application filed September 12, 1890. Serial No. 364,725. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. KILMER, a citizen of the United States, residing at Newburg, in the county of Orange, State of New York, have invented certain new and useful Improvements in Bale-Ties, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to bale-ties, and among the objects in view are to produce a tie having a strong well-braced hook at one end adapted to receive and co-operate with a loop of any desired form at the other end, the hook serving by its peculiar construction to maintain the line of strain as nearly as possible in line with the main wire of the tie.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a hook embodying my invention. Fig. 2 is a side elevation, the loop being shown by dotted lines connected with the hook. Fig. 3 is an elevation of the side opposite that shown in Fig. 2, and Fig. 4 is a plan view.

Like letters refer to like parts in all the figures.

A represents the main wire of the tie, which is to be bent to form the hook, and B represents the end of said wire, these letters being thus applied to assist in clearly distinguishing the convolutions and bends employed from each other. The loop C is formed in any well-known manner, and it is only requisite that the length of its opening should be less than the length of the brace portion D of the hook. In constructing this hook the main wire is bent over toward itself, as at A', and at a short distance beyond is again bent reversely, as at A². These two bends form what may be designated as the "point" of the hook. The third bend A³ is made in the main wire A, thus determining the length of the brace D. The main wire is now laid in the bend A', and is coiled about the point A² in the form of a ring or eye E. The remaining end B of the wire is then carried substantially parallel with the first bend formed, and with it constitutes the body of the hook, and finally said end B is coiled about the main wire. If

desired, a slight depression D' may be formed in the upper wire of the brace, so as to bring the two wires of the brace in contact with each other at a point about midway along the brace, whereby the latter is materially stiffened.

By reference to Figs. 2 and 3 it will be noticed that the eye E forms in the body of the hook and in connection with said body a recess, into which the loop is naturally received when the tie is put under strain. This recess serves to maintain the two portions of the tie substantially in line with each other and with the strain which is exerted upon it after it has been applied to a bale. At such time, also, the end of the brace rests upon the loop, and thus prevents the straightening of the hook portion. This, however, is next to impossible, by reason of the stiffening and strengthening of the hook by passing the end B around its point in the act of forming the eye E. The eye E serves to prevent the point of the hook from being drawn up or straightened, first, by the point being embraced by the eye, and, second, by the formation of the recess in the body of the hook in the passage of a portion of the eye beneath that portion of the hook where it merges into the body.

In coupling the loop and hook together the brace B serves as a guide, the loop striking against the bend A' and the portion of the end in proximity to the eye E to limit the forward movement of the loop as soon as it is in position to be dropped below the point of the hook. In the remaining movement of the parts in coupling, the brace prevents the escape of the loop over the point of the hook.

I have described one course of procedure to construct the hook; but I do not limit my invention in this regard, as there are various methods and orders of procedure to form the desired bends constituting the hook, the brace, and the eye, and the coiling of the end upon the main wire. It is not essential that the material forming the tie be extended to form a brace between the bends A² and A³, as this brace may be omitted and still the bends A', A², and A³ be present, with the eye embracing the wire between the bends A² and A³, as will be readily seen. It is, however, essential that the eye should embrace both the wires forming the point of the hook, whether the brace be present or not.

What I claim is—

1. The bale-tie hook herein shown and described having the bends A' A^2 A^3 , and the eye arranged in the bend A' and embracing
5 both the wires forming the point of the hook, substantially as specified.

2. The hook herein shown and described, consisting of the wire having the bends A' A^2 A^3 , the depression D' , and the eye E , embrac-

ing the wires forming the point of the hook 10 between the bends A^2 A^3 , substantially as specified.

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

WILLIAM A. KILMER.

Witnesses:

L. C. HILLS,

M. P. CALLAN.