

E. A. FRANTZ.
BALE TIE.

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1,058,666.

Patented Apr. 8, 1913.

Fig. 1.

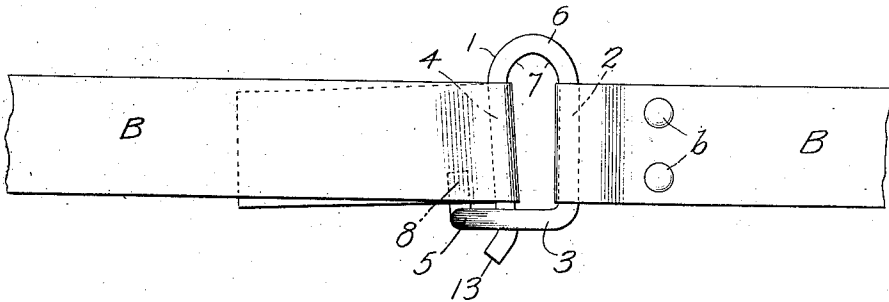
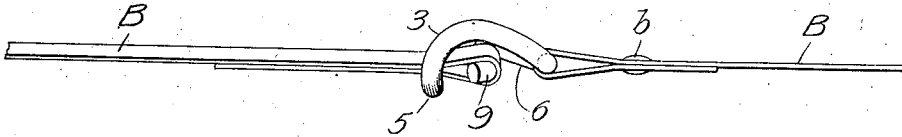


Fig. 2.



WITNESSES

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EZRA A. FRANTZ, OF MEMPHIS, TENNESSEE, ASSIGNOR TO FRANTZ BUCKLE CO., OF WEATHERFORD, TEXAS.

BALE-TIE.

1,058,666.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed August 22, 1910. Serial No. 578,300.

To all whom it may concern:

Be it known that I, EZRA A. FRANTZ, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Bale-Tie, of which the following is a specification.

This invention relates generally to bale ties, and particularly to one of that class in which the tie is constructed of a length of wire bent to an approximately quadrangular shape and has one side member crossed over and projected beyond the adjacent end member, the latter being provided with a hook to be engaged by the said side member when strain comes upon the band, such a structure being shown in a patent granted to W. Wilkinson, August 22, 1876, No. 181,385.

It has been found in practice that the device of the above patent is inoperative for the reason that when strains come upon the band, the side member will not engage the hook on the end member owing to the fact that the latter is small, and as the draft from the band is oblique to the under side of the tie, it results in the side member being forced away from instead of into engagement with the hook, with the effect that the tie is rendered useless.

It is the object of the present invention, in a ready, simple and thoroughly practical manner to obviate the above objectionable feature by constructing the hook in such manner as to insure a positive engagement therewith of the side member when strain comes upon the band, and thereby produce an efficient and advantageous form of tie.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and arrangements of parts of a bale tie, as will be hereinafter more fully described and claimed.

In the accompanying drawings forming a part of this specification and in which like characters of reference indicate corresponding parts:—Figure 1 is a view in plan of a length of bale band showing the tie assembled therewith, and exhibiting the manner in which it appears before strain comes upon the band. Fig. 2 is an edge view.

Referring to the drawings, B designates an ordinary band, one end of which is secured, as usual, to one of the side members

of the tie 1 by rivets b, the other end of the band being passed around the other side member of the tie, as clearly shown in Fig. 2. The tie is constructed from a length of heavy wire, and is bent to an approximately quadrangular shape, one end being rounded, but this is optional, as it might be straight instead of curved, if found of advantage.

The side member 2 has its terminal bent at approximately right angles to its length and formed into a long hook 3, which extends across the end of the other side member 4 and terminates in a short-curved beak 5 that extends below the side member a distance equal at least to the thickness of the stock, whereby when strain is applied to the band, the side member 4 will be drawn into the crotch of the beak and be firmly held therein, the side member 4 being extended beyond the hook a sufficient distance to insure positive coaction between the parts. The provision of the beak, curved as shown is necessary to the effective operation of the device, in order to withstand the strain to which it will be subjected, it being apparent that a short curve will withstand a greater draft without yielding than a long one.

As will be seen by reference to Fig. 2, the side member 4 is deflected downward at an angle to the side member 2, this being necessary in order to permit of the band being properly positioned thereon.

The end member 6 is bent on a somewhat sharp curve, presenting thereby two obliquely disposed walls 7 that serve to crowd or force the band toward the hook 3 when strain comes upon the former. As a matter of further improvement, the beak 5 is provided with an extension 8 that is disposed approximately parallel to the side member 2, and operates to compress the band and thus render the coaction between the tie and the band of the most stable character. The extension 8 is off-set and is disposed below the plane of the adjacent side member 4 a distance sufficient to permit of the folded end of the band being passed over the extension.

As a matter of still further improvement, and to insure positive coaction between the terminal of the side member and the beak, when the two parts are in locked engagement, which ensues when pressure is removed from a bale, the side member 4 has its end portion laterally deflected to provide

a hook 9 which will embrace the exterior surface of the beak, and prevent lateral disengagement of the interlocked side and end members.

5 A feature of great importance is the oblique disposition of the band engaging member 4 relative to the member 2, this arrangement rendering certain the engagement of the member 4 with the hook 3 when strain comes on the tie, and the retention of the parts in locked engagement. Further, by making the hook of greater length than the end member 6, and when the member 4 is in locked engagement with the hook, the former will be obliquely disposed to the member 2, so that the greatest strain will be applied to the tie at the end member 6 where the highest resistance will be presented by the tie to yielding.

20 While improvements herein set forth are simple in character, it will be found that they will be thoroughly effective for securing the objects sought and will result in rendering an inoperative device operative.

25 The lateral bend of the hooked arm of the buckle made for the purpose of enlarging the entrance throat for the bale tie, and the oblique surface on the inner face of the hook for engagement by the spring or yielding bale tie engaging member form the subject-matter of a separate application Serial No. 753,182, for patent executed by me the 8th day of March 1913 and filed March 10, 1913.

30 What is claimed is:

35 1. A bale tie buckle constructed of a length of wire bent to an approximately quadrangular shape to provide two bale-tie engaging members, one of which is rigid and

the other yieldable, and two end members, one of which is of greater length than the other and terminates in a hook, the said yieldable bale-tie engaging member being projected across the hook and having its free end spaced away from the hook to provide an entrance throat and disposed within the plane of the tip of the bill of the hook to insure positive co-action between the said end and hook under strain, the bill of the hook being normally spaced from the yielding member at such distance that when they are brought into locked engagement by a strain from the bale-tie, the said member will occupy a position oblique to the other bale-tie engaging member.

2. A bale tie buckle constructed from a length of wire bent to an approximately quadrangular shape to provide two bale-tie engaging members, one of which is rigid and the other yieldable, and two end members, one of which is of greater length than the other and terminates in a hook, the yielding bale-tie engaging member being projected across the hook and being normally spaced therefrom at such distance, that when brought into locked engagement therewith by strain from the bale-tie, the said member will occupy a position oblique to the other bale-tie engaging member.

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

EZRA A. FRANTZ.

Witnesses:

F. B. OCHSENREITER,

WILLIAM CRICHTON CLARKE.