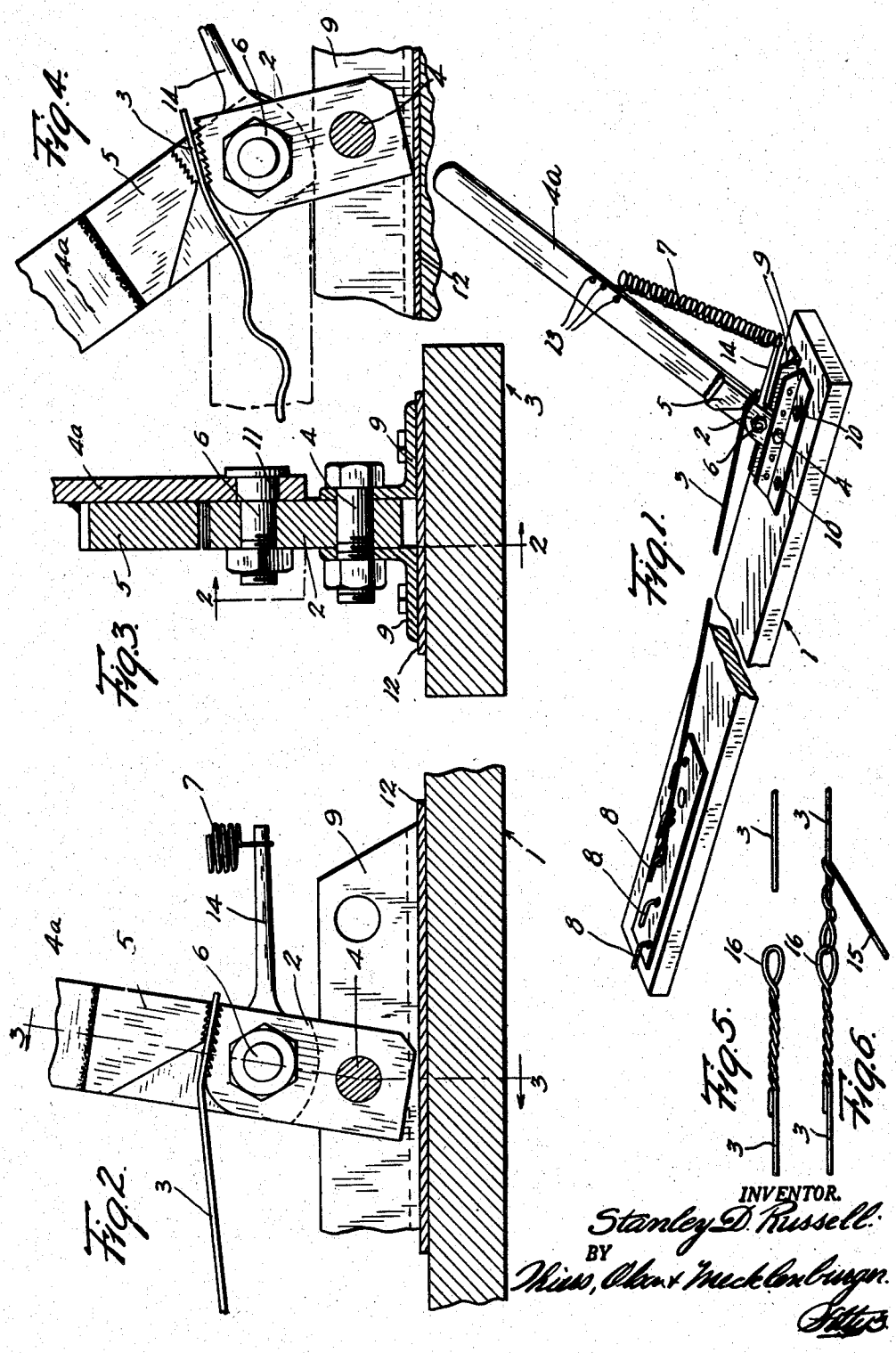
April 25, 1950 S. D. RUSSELL 2,505,209

BALE TIE STRETCHER

Filed Feb. 7, 1947



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Patented Apr. 25, 1950 2,505,209

UNITED STATES PATENT OFFICE

2,505,209

BALE TIE STRETCHER

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Application February 7 1947, Serial No. 727,247

9 Claims. (Cl. 140—147)

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My invention relates to bale tie stretchers.

Bale ties are usually made of wire and after use are commonly discarded. However, often it is desired to save these ties and use them again. Used ties are usually kinked and badly bent which will prevent their use in this condition. It is desirable that bale ties be as straight as possible so that they will feed easily when tying the bales. The purpose of the present invention is primarily to straighten these ties.

One of the objects of my invention is to provide a bale tie stretcher which will be simple, rugged, small, and inexpensive in construction and durable, efficient and easily operated in use.

Further objects and advantages of the inventiton will be apparent from the description and claims.

In the drawings, in which an embodiment of my invention is shown,

Figure 1 is a perspective view of a bale tie stretcher;

Fig. 2 is an enlarged detail section on the line 2—2 of Fig. 3;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a view similar to Fig. 2 but showing the parts in a different adjusting position;

Fig. 5 is an elevational view of the ends of a single loop bale tie brought close together prior to tying, and

Fig. 6 is an elevational view showing the tie completed.

Referring to the drawings in detail, the construction shown comprises an elongated relatively wide base 1, such as a plank which may be about 10 feet long, 6 inches wide and 2 inches thick, which may rest on the floor or any suitable support, a short rocker jaw 2 for gripping a bale tie 3, pivotally mounted on the base on the bolt 4, a relatively long actuating lever 4a having a jaw 5 for gripping the bale tie, pivotally mounted on the rocker jaw on the bolt 6, a coil tension spring 7 tending to urge the jaws 2 and 5 toward each other, and a plurality of bale tie loop-engaging hooks 8 mounted on the base substantially bale tie length from the clamping jaws, differently spaced both longitudinally and laterally with respect to the elongated base to enable the stretcher to be used with different lengths of bale ties.

The bolt 6 on which the jaw lever 4a is pivotally mounted and the bolt 4 on which the short clamping jaw is pivotally mounted are both on the same side of the clamping faces which engage the bale tie 3, thus providing a compact, rugged construction and a powerful gripping action.

The short clamping jaw 2 is pivotally secured to a pair of angle irons 9 by means of the bolt 4 which extends through the vertical legs of the angle irons.

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If desired, the angle irons 9 may be provided with a plurality of sets of holes 9a in any one of which the bolt 4 may be inserted, in order to take care of extra short or extra long bale ties.

The angle irons are secured to the base by means of bolts or screws 10. The bolt 6, extending through the clamping jaw lever 4a and short clamping jaw 2 is provided with a shoulder at 11 to prevent binding of the clamping lever. The upper clamping jaw 5 may be secured to the clamping lever 4a in any suitable manner as by welding. Forward movement of the short clamping jaw is limited by engagement of the lower front corner of the jaw 2 with a metal plate 12 secured between the angle irons 9 and the plank 1. The coil tension spring 7 is secured at its upper end in any one of a number of holes 13 in the lever. At its lower end it is secured to a post 14 which may be welded to the short clamping jaw 2.

Referring to Fig. 6, it will be seen that when the tied ends of the bale tie are freed from each other by unwinding the extending portion 15 of the tie and withdrawing it from the loop 16, this unwound portion will be greatly kinked. To straighten out this kinked portion, the loop 16 is slipped over one of the hooks 8 on the stretcher, the clamping lever is moved to the position shown in Fig. 4, the kinked end of the bale tie is inserted between the jaws, the lever 4a is pulled back to pinch the extreme end of the bale tie between the clamping jaws, and the lever is pulled back far enough to stretch the bale tie tightly and straighten out the kinks as shown in Figs. 1 and 2.

When the lever is swung toward the direction of the hooks 8 the jaw 2 strikes the stop plate 12 and the jaw lever 4a continues to swing forward. This opens the gap between the two jaws, allowing the wire to be inserted. It is now merely necessary to swing the lever away from this hook. This operation will cause the jaws to clamp the wire securely. Further movement of the lever will obviously pull the wire tight and continued pulling will stretch it. It is well known that if a kinked wire is stretched, the kinks will be straightened although the wire may be reduced in diameter. This, in general, would not be objectionable. The spring 7 urges the two jaws toward each other so as to provide the initial grip of the wire. It is obvious that the harder the lever is pulled the tighter will be the grip on the wire.

Further modifications will be apparent to those skilled in the art and it is desired, therefore, that the invention be limited only by the scope of the appended claims.

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

1. A bale tie stretcher comprising a support, a

clamping jaw pivotally mounted thereon, a lever pivotally mounted on said clamping jaw, and a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween and to stretch the bale tight by movement of the lever, both pivotal axes lying on the same side of the plane of the clamping surfaces of said jaws, the wide opening ends of the jaws being in advance of the narrow opening ends in the stretching movement of the lever.

2. A bale tie stretcher comprising a support, a clamping jaw pivotally mounted thereon, a lever pivotally mounted on said clamping jaw, a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween and to stretch the bale tight by movement of the lever, both pivotal axes lying on the same side of the plane of the clamping surfaces of said jaws, and spring means acting between said clamping jaws urging them toward gripping position, the wide opening ends of the jaws being in advance of the narrow opening ends in the stretching movement of the lever.

3. A bale tie stretcher comprising a support, a clamping jaw pivotally mounted thereon, a lever pivotally mounted on said clamping jaw, a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween, spring means acting between said clamping jaws urging them toward gripping position, and stop means for engaging and stopping the movement of said first clamping jaw to cause the clamping jaws to separate against the spring resistance.

4. A bale tie stretcher comprising a base, two parallel spaced angle irons mounted thereon with upright legs of the angle irons opposing each other, a clamping jaw pivotally mounted on and between the upright legs, a lever pivotally mounted on said clamping jaw, and a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween, both pivotal axes lying on the same side of the clamping surfaces of the jaws.

5. A bale tie stretcher comprising a base, two parallel spaced angle irons mounted thereon with upright legs of the angle irons opposing each other, a clamping jaw pivotally mounted on and between the upright legs, a lever pivotally mounted on said clamping jaw, and a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween, said base being substantially the length of a bale tie and having a flat supporting surface for resting on a flat support and having a flat upper surface on which the horizontal legs of the angle irons rest for supporting the lever in upright position.

6. A bale tie stretcher comprising a base, two parallel spaced angle irons mounted thereon with upright legs of the angle irons opposing each other, a clamping jaw pivotally mounted on and between the upright legs, a lever pivotally mounted on said clamping jaw, a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween, said base being substantially the length of a bale tie and having a flat supporting surface for resting on a flat support and having a flat upper surface on which the horizontal legs of the angle irons rest for supporting the lever in upright position, and a stop for limiting the movement of said first clamping jaw extending between the upright legs.

7. A bale tie stretcher comprising a base, a clamping jaw pivotally mounted thereon, a lever pivotally mounted on said clamping jaw, a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween, and a plurality of hooks mounted on said base at different distances from said jaws to accommodate loop bale ties of different lengths, said hooks being displaced laterally with respect to each other to avoid interference with a stretched bale tie.

8. A bale tie stretcher comprising a support, a clamping jaw pivotally mounted thereon, a lever pivotally mounted to move independently of said clamping jaw, and a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween and to stretch the bale tight by movement of the lever, both pivotal axes lying on the same side of the plane of the clamping surfaces of said jaws, the wide opening ends of the jaws being in advance of the narrow opening ends in the stretching movement of the lever.

9. A bale tie stretcher comprising a support, a clamping jaw pivotally mounted thereon, a lever pivotally mounted to move independently of said clamping jaw, a second clamping jaw carried by said lever and cooperating with said first jaw to grip a bale tie therebetween and to stretch the bale tight by movement of the lever, both pivotal axes lying on the same side of the plane of the clamping surfaces of said jaws, and spring means acting between said clamping jaws urging them toward gripping position, the wide opening ends of the jaws being in advance of the narrow opening ends in the stretching movement of the lever.

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