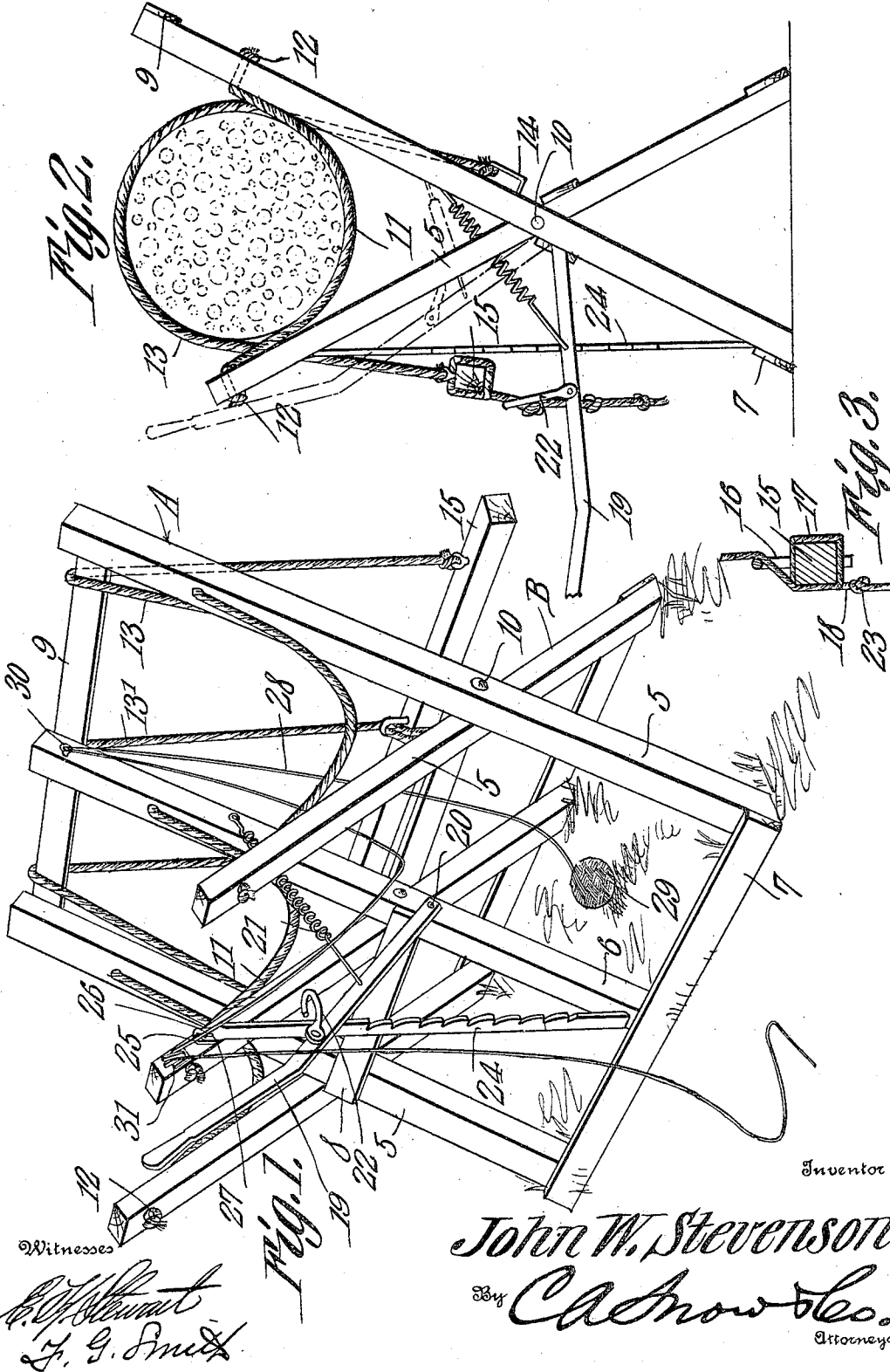


J. W. STEVENSON.
BINDER.
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944,388.

Patented Dec. 28, 1909.



Witnesses

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Fig. 1.

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UNITED STATES PATENT OFFICE.

JOHN W. STEVENSON, OF NORTH BEND, NEBRASKA.

BINDER.

944,388.

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To all whom it may concern:

Be it known that I, JOHN W. STEVENSON, a citizen of the United States, residing at North Bend, in the county of Dodge and State of Nebraska, have invented a new and useful Binder, of which the following is a specification.

It is the object of the present invention to provide a binder, of that class designed for use in binding bundles or shocks of fodder, or bundles of small trees, saplings, etc., so constructed as to adapt it for practically universal use.

More specifically speaking, it is the object of the invention to provide a binder of this class so constructed as to permit of its being readily adapted for use in binding bundles of fodder, or for binding or baling small trees, saplings, etc.

It is a further object of the invention to so arrange and construct the parts of the binder as to adapt it for use in forming bales of various sizes, the means for placing the binding straps or elements of the device under tension, after they have been passed about the bale or bundle, being adjustably connected with the said straps or elements for the purpose stated.

In the accompanying drawings:—Figure 1 is a perspective view of the binder embodying the invention, showing the same set up for use, and the parts in normal position, or in other words, in the position they assume before the bundle to be bound is placed in the device: Fig. 2 is an end elevation of the binder, showing the parts in full lines in position when the binder straps are under tension for forming and compacting the bundle, and in dotted lines, the positions assumed by the several parts prior to the straps being placed under tension: Fig. 3 is a detail vertical sectional view, showing the manner of connecting one of the straps to a bar which is supported by all of the straps.

As clearly shown in the drawings, the body of the device is in the nature of a cradle comprised of two crossed pivoted frames, each of these frames being comprised of side stiles 5, an intermediate stile 6, a lower connecting bar 7, and an intermediate connecting cross bar 8, which connects the stiles of the respective frames at a point above their lower ends, and consequently above the cross bar 7, and one of the frames, indicated in general by the reference character A, includes also an upper cross bar 9, which con-

nects the upper ends of the stiles. The other frame is indicated in general by the reference character B.

As shown in Figs. 1 and 2 of the drawings, pivot bolts 10 are passed through corresponding ones of the stiles 5 of the two frames A and B, and serve to pivotally connect these frames in crossed relation, as above noted, so that they may be either folded together or set up in the position shown in Figs. 1 and 2 of the drawings, in which position they form a cradle to receive the bundle of fodder, or trees, or the like, to be bound.

In order to support the bundle of fodder or trees placed in the cradle, ropes, chains, or other flexible elements, 11, are secured at their ends, as at 12, one to each pair of pivoted stiles 5, the said elements hanging loosely between their points of connection with the said stiles, as clearly shown in Figs. 1 and 2 of the drawings, and forming, in effect, a semi-annular support.

The bundle binding and compressing means will now be described: Said means is comprised, in part, of a plurality of straps 13, here shown as being three in number, and secured each at one end to an attaching bale 14 upon the stiles 5 of the frame A, the said straps being carried upwardly over the upper cross bar 9 of the said frame, and the two side straps being attached at their opposite ends to a bar 15. The intermediate one of the straps 13, indicated specifically by the numeral 13', is not permanently attached to the bar 15, but is passed through a staple 16, upon the bar between its ends, around the bar, as indicated by the numeral 17, and again through the staple, with its lower portion depending below the said bar 15, as indicated at 18. It will be understood that this intermediate strap may be disconnected or detached from the bar merely by drawing its lower portion through the staple 16, and the function of this construction will be presently described. A lever 19 is pivoted as at 20 to the intermediate stile 6 of the frame A of the device, and is normally held in elevated position, in which position it is illustrated in Fig. 1 of the drawings, by means of a spring 21, which is connected at one end to the lever, and at its other end to the said intermediate stile 6 of the frame A. This lever has pivoted to it, at a point intermediate of its ends, a hook 22, the bill of which is preferably disposed

transversely of the lever 19, and is adapted to receive the depending portion 18 of the intermediate strap 13', and to engage above a plurality of knots or other stop devices, 23, interchangeably, which are formed in this portion of the length of the said strap, it being understood that prior to such engagement, either the strap by itself, or the strap in connection with the straps 13 and the bar 15 supported thereby, are swung or passed about the bundle supported upon the element 11. Downward swinging movement of the lever 19, after such engagement of the hook 22 with the said length of the intermediate strap 13', will of course exert a pull upon all of straps 13 and 13', through the medium of the bar 15, or upon the strap 13', should it be detached from the bar prior to being passed about the bundle in the cradle, and that this pull upon these straps will serve to compress the stalks comprising the bundle, or the trees comprising the bundle or bale. It will further be understood that a large or small bundle may be compressed in the cradle, depending upon the point of engagement of the hook 22 with the depending portion 18 of the strap 13'. In order to hold the lever 19 after it has been swung downwardly to place the binding straps under tension, there is provided a rack bar 24, which has pivoted at its lower end the lower cross-bar 7 of the frame 8, and is provided at its upper end with an opening 25, through which is received a stud 26, having a pin 27 passed therethrough, this stud being carried by the intermediate stile 6 of the frame B, and serving to connect the upper end of the rack bar 24 with the said stile. Not only does the rack bar serve the function just stated, but it also serves to firmly hold and support the frame in unfolded or set up position. At this point, it may be noted that in binding fodder, the intermediate strap 13' is preferably employed alone, it being disconnected from the bar 15 for this purpose, but when the device is used for the purpose of baling or bundling trees, saplings, and the like, all three of the straps are preferably employed, and in the manner illustrated in the drawings.

After the bundle of fodder or trees has been properly compressed and formed, it is of course to be tied or bound by cord prior to removal from the cradle. In the drawings this binding cord is illustrated by the numeral 28, the cord being passed from a ball or spool thereof, 29, upwardly and through an eye 30 at the upper end of the intermediate stile 6 of the frame A of the device, and thence through a kerfed guide 31, which is fixed at the upper end of the intermediate stile 6 of the frame B of the device, the length of the cord between the eye 30 and the guide 31 being loosely hung,

as clearly shown in Fig. 1 of the drawings, and the guide 31 being adapted to frictionally grip the cord until after the formation of the bale or bundle, after which the cord is disengaged from the guide and securely and tightly tied around the bundle or bale which has been formed in the cradle, the straps 13 and 13' being finally restored to original position to permit removal of the bale or bundle from the cradle.

What is claimed is:—

1. In a device of the class described, a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, one of the straps being detachably connected with the bar, and a pull device adapted for connection with the bar or with the said detachable strap.

2. In a device of the class described a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, and a pull device adapted for connection with the bar or with a single one of said straps.

3. In a device of the class described a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, and a pull device adapted for connection with one of the straps, whereby to exert a pull upon all of the straps through the medium of the said bar.

4. In a device of the class described a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, and a pull device adapted for connection with one of the straps at a number of points in its length, whereby to exert a pull upon all of the said straps through the medium of the bar.

5. In a device of the class described, a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, and a lever adapted for connection with one of the straps at a plurality of points in its length, whereby to exert a pull upon all of the straps through the medium of the said bar.

6. In a device of the class described a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar

supported from the straps, one of said straps being detachably connected with the said bar, and a lever adapted for connection with the intermediate one of said straps when attached to or detached from the bar, whereby, in the former instance, to exert a pull upon all of the straps through the medium of the said bar, and, in the latter instance, to exert a pull upon the said intermediate strap alone.

7. In a device of the class described, a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, the said frames being mutually foldable, a lever pivoted to one of the frames and adapted for connection to the said bar, whereby to exert a pull upon all the straps through the medium of the said bar, and a rack-bar for the lever pivoted to one of the said frames and detachably connected with the other frame.

8. In a device of the class described, a cradle comprised of crossed pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, the said frames being mutually foldable, a lever pivoted to one of the frames and adapted for connection with the said bar whereby to exert a pull upon all the straps through the medium of the said bar, a rack-bar for the

lever pivoted to one of the said frames and detachably connected with the other frame, whereby to hold the frames in unfolded or set up position when so connected.

9. In a device of the class described, a cradle comprised of cross pivoted frames, a plurality of binder straps connected to one of the frames and adapted to be passed about a bundle disposed in the cradle, a bar supported from the straps, the said frames being mutually foldable, one of the said straps being detachably connected with the bar and adapted to be passed about a bundle disposed in the cradle, alone, a lever pivoted to one of the frames and adapted for connection with the said bar whereby to exert a pull upon all of the straps through the medium of the said bar and adapted also for connection with the said single detachable strap whereby to exert a pull thereon, alone, and a rack bar for the lever pivoted at its lower end to one of the frames and detachably connected at its upper end to one member of the other frame whereby to brace the members against folding when in set up position.

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

JOHN W. STEVENSON.

Witnesses:

ROY J. CUSACK,
MABEL C. CUSACK.