(No Model.) 2 Sheets—Sheet 1.

J. B. BARTHOLOMEW.

STRAW STACKER.

No. 555,066. Patented Feb. 25, 1896.

Fig. 1.

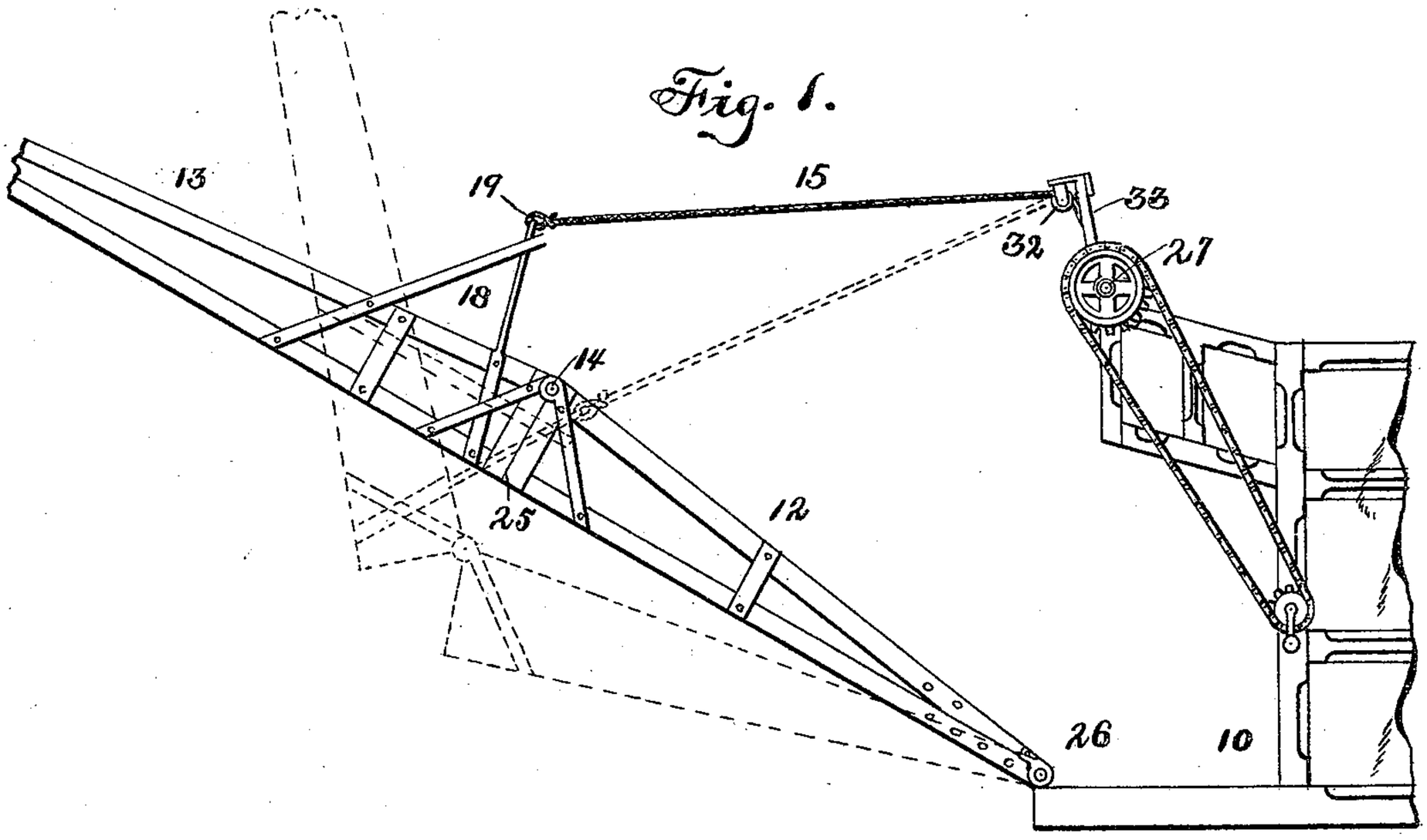
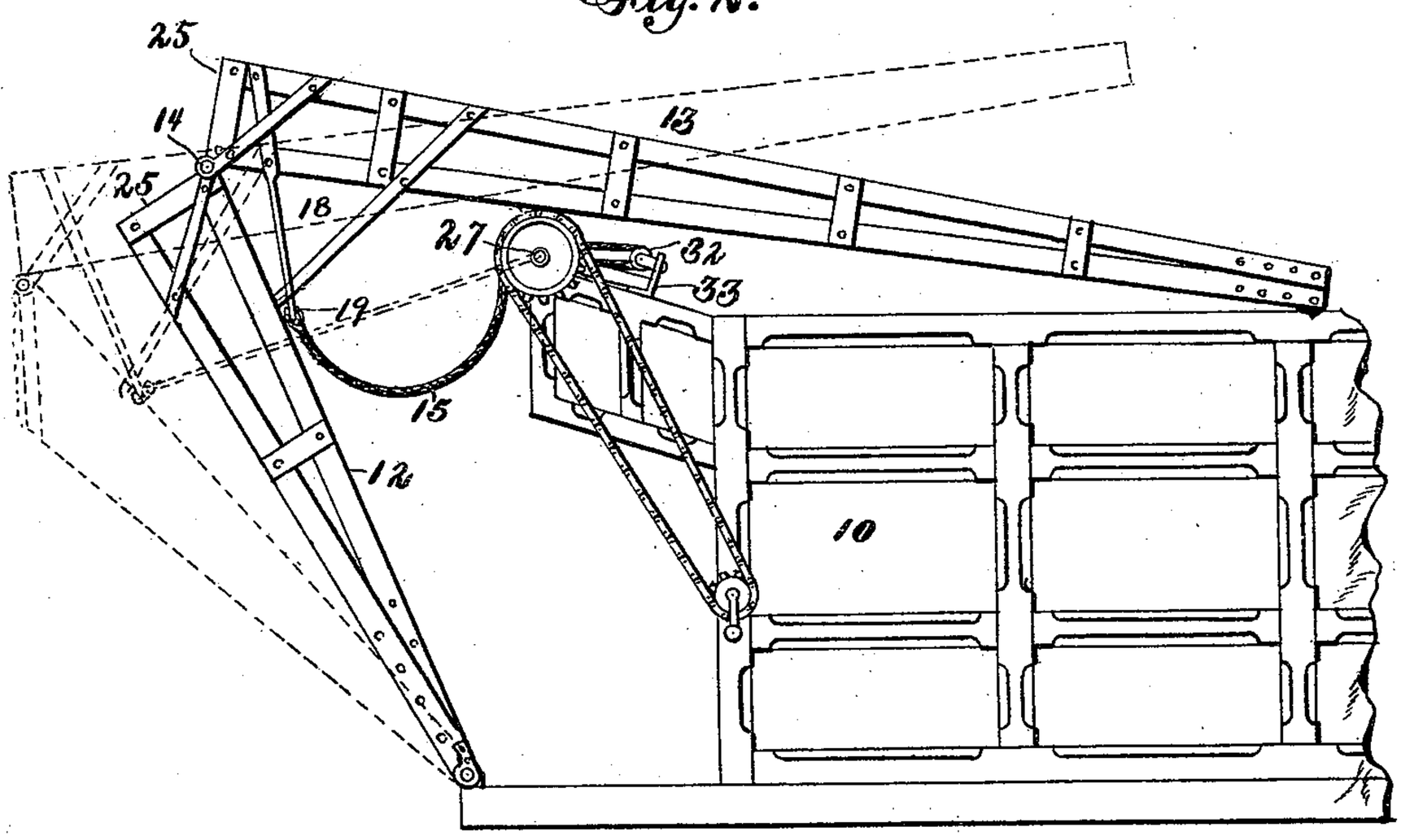


Fig. 2.



WITNESSES.
Wm. H. Edwards.
Arthur L. Bryant

INVENTOR
J. B. Bartholomew
by H. A. Bliss atty.

(No Model.)

2 Sheets—Sheet 2.

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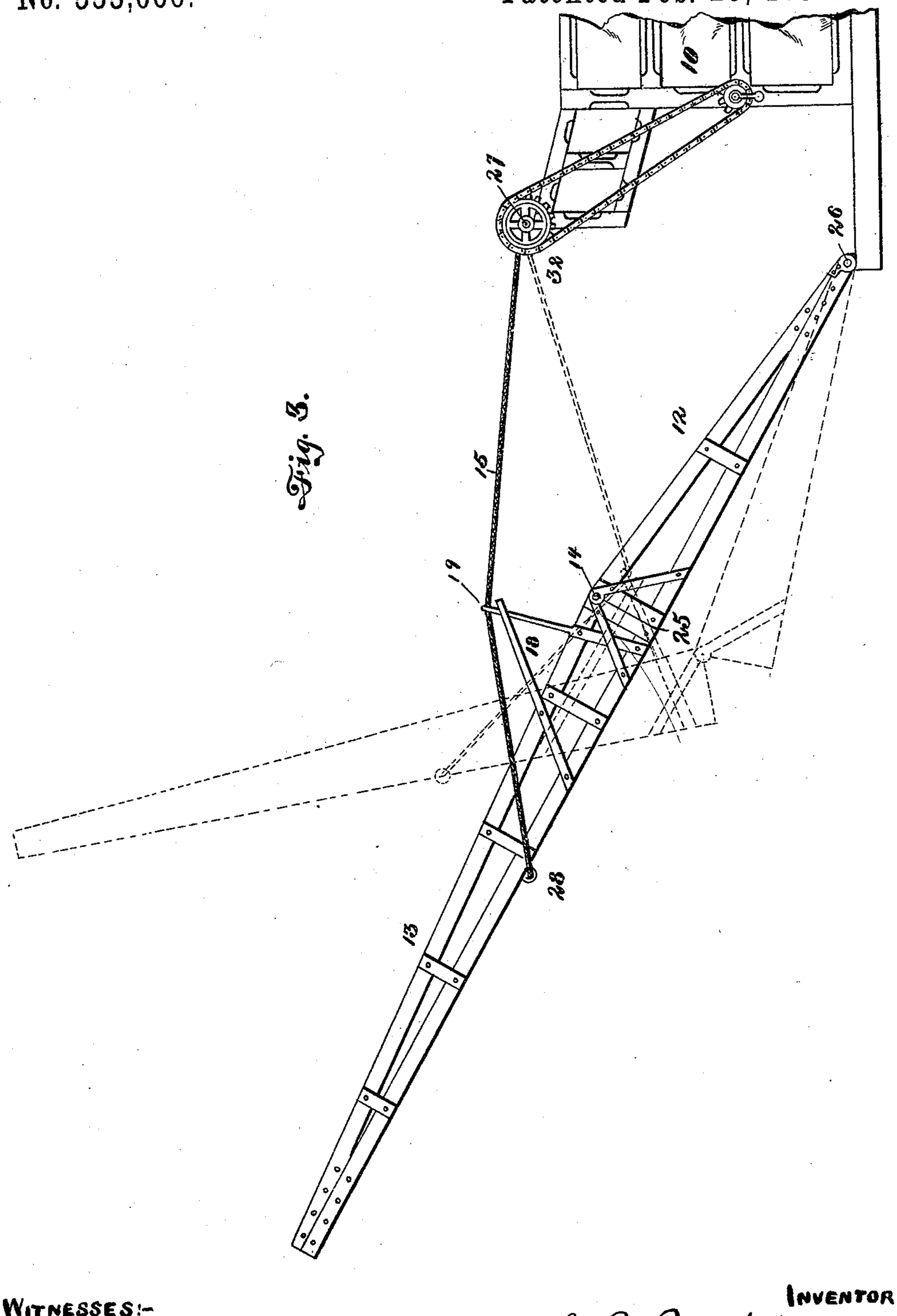

Fig. 3.

WITNESSES:-
Wm. H. Edwards
Arthur L. Bryant

INVENTOR
J. B. Bartholomew
by H. H. Bliss. Atty.

UNITED STATES PATENT OFFICE.

JOHN B. BARTHOLOMEW, OF PEORIA, ILLINOIS.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 555,066, dated February 25, 1896.

Original application filed April 2, 1894, Serial No. 506,133. Divided and this application filed July 10, 1895. Serial No. 555,567.

(No model.)

To all whom it may concern:

Be it known that I, JOHN B. BARTHOLOMEW, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented an Improvement in Straw-Stackers, of which the following is a specification.

This invention relates to that style of foldable straw-stackers in which the stacker-frame is made in two or more sections hinged to each other and, as a whole, to a suitable support, the said sections being supported in their extended or working position by a rope or its equivalent and the sections of the stacker being capable of folding and unfolding without requiring at the same time a change in the length of the supporting-rope, and hence a winding or unwinding of the same upon the drum or other device to which the inner end is usually secured.

The invention has for its object to simplify and improve straw-stackers of the kind above referred to; and it consists of the novel arrangements and combinations of parts which I will proceed to describe.

In the accompanying drawings, wherein I have illustrated sufficient of a straw-stacker to illustrate my invention, Figure 1 is a side elevation of a straw-stacker embodying my improvements, it being illustrated in its working position by full lines and in the position occupied while being folded by dotted lines. Fig. 2 is a side elevation of the same parts illustrated in Fig. 1, the full lines illustrating the parts in the position occupied when the machine is stored or in transit, and the dotted lines a position occupied by the parts before being moved into final folding position. Fig. 3 indicates a side elevation of a somewhat different form or embodiment of the invention.

In the said drawings, 10 indicates the supporting-frame to which the inner end of the straw-stacker is secured, as shown, such frame being the rear end of a thrashing and separating machine, though the stacker may be mounted upon an independent frame or support when this is found desirable.

The frame of the stacker is shown as consisting of two parts or sections—an inner section, 12, which is hinged at 26 to the supporting-frame, and an outer section, 13—the two sections being connected by a hinge or joint 14. In the present form of my invention the hinge 14 is arranged at the upper adjacent corners of the two sections 12 and 13, and there are abutments 25 arranged below the hinge, the disposition of these parts being such that when the two parts of the stacker-frame are in line with each other the abutments engage and prevent any upward movement or buckling of the adjacent ends of the frame-sections, while at the same time they permit a breaking of the hinge-joint in a downward direction, and hence a folding of the frame-sections relative to each other whenever proper power is applied for this purpose. These parts 12 and 13 constitute a frame for supporting an endless carrier, which may be of any of the well-known forms and so supported at the bottom and the top of the carrier-frame as to readily convey straw upward and outward when it is in action.

15 indicates a rope which serves to support the stacker in working position, and also operates to assist in the easy, and practically automatic, folding of the stacker-frame. There are preferably two of these ropes, one extending to either side of the stacker, though a single rope extending to a support or attachment at the center of the stacker transversely would be a practical though less advantageous construction.

One end of the rope 15 is shown as being secured to a winding device, such as a shaft 27, and from its connection or support on the frame 10 the rope extends directly to a connection or support carried by the outer section of the stacker-frame.

18 designates a rod, bracket or frame carried by the outer section, and to which, at 19, the rope has attachment. It will be observed that this rod or frame 18 extends upward from the outer section of the stacker which carries it, and that the point of attachment or connection with the rope 15 is in the vertical plane of the hinge 14, or preferably in a plane a little outside of the hinge.

I do not wish to limit my invention to a construction in which the outer end of each rope 15 is securely attached to the rod or frame 18, as illustrated in Figs. 1 and 2, because the

rope might be made to pass through an eye, situated at 19, and extend thence to an eye 28 on the frame for the section 13, situated beyond its hinged end and represented in Fig. 3.

I prefer to arrange a swinging frame 33, provided with a pulley 32 above the winding-shaft 27, and to carry the rope 15 from the shaft 27, over the pulley 32 before it passes to the outer stacker-section, as this gives a higher point of attachment for the rope than can be found on any permanent part of the supporting-frame when such frame is the rear end of a thrashing and separating machine. This frame may be folded down upon the top of the thrasher, as indicated in Fig. 2, when the stacker is folded in the position for transportation or storage.

In a straw-stacker the parts of which are disposed as described and as is illustrated in the drawings accompanying this specification the rope or ropes 15 sustain the stacker-frame in working position when the two sections are brought into line with each other, and the inclination of the stacker can be varied, the whole turning about the pivot 26 by winding in or letting out more or less of the rope, the shaft 27 being provided with suitable winding devices; but when it becomes desirable to fold the stacker it is in nowise necessary, and in fact is very undesirable, to operate the winding devices or to change the length of the rope-section between its support upon the frame 10, as at 32, and its support or attachment upon the stacker-section 13, as at 19.

The parts of my invention are so arranged that the operator has only to break the joint where the two stacker-sections are connected and move the sections slightly out of line with each other, independent of any movement of the rope, when the weight of the outer section will come into play and operate to cause an automatic folding of the sections into nearly a complete folded position.

The point of rope connection 19 bears such relationship to the hinge 14 that when the stacker is in working position the two sections 12 and 13 are in stable equilibrium so long as supported by the rope. The range of stable equilibrium of the two stacker-sections relative to each other is, however, comparatively small, so that when the operator by exerting a downward pull upon the stacker-frame adjacent to the hinge 14 moves the sections from out of their locked relationship to each other this brings the parts into such positions that the gravity of the outer section assists in and largely causes the folding of the frame from the position indicated in dotted lines in Fig. 1 to that indicated in dotted lines in Fig. 2, where the outer section, 13, is shown as resting upon the supporting-frame 10. While the stacker is being thus folded the rope 15 at all times resists the tendency of the outer section to drop forcibly. The position of the point of rope connection or attachment 19 has such relation to the parts of the stacker and the position of the point of rope attachment on the frame 10 that during the time that the outer end of the outer section in its folding movement is moving inward around its hinge from an upright or vertical position the bearing or attachment point 19 crosses the line connecting the hinge 14 and the point of rope attachment or bearing on the supporting-frame, and thereafter, in the further folding of the frame, the draft of the rope is exerted upon the outer section (considered by itself with respect to its axis or hinge at 14) in the opposite direction from that in which it acted before the section attains such upright or vertical position, although the draft of the rope, with respect to the elevator as a whole, is the same continuously—that is to say, it sustains the elevator upon the hinge 26. Hence it follows that the outer section, 13, can be folded from its vertical position to a position resting upon the supporting-frame without danger, easily and almost automatically, and without changing the length of the amount of rope 15 which is in operation.

The stacker or carrier frame is brought into its final or complete folded position (represented in full lines in Fig. 2) either by winding in the rope 15 or by pushing the frame inward from the under side of the section 12.

It will be understood that the weight of the outer section operates to permit the sections to be unfolded or moved into their working position with practically the same ease that these parts are folded up, and that when the sections are being unfolded the rope 15 does not have to be let out or wound up.

I do not in this application make claim broadly to a straw-stacker formed with two sections hinged together and a rope connected to the outer section and arranged to support the sections in working position, the rope having such connection with the outer section that the staker-frame may be folded or unfolded without requiring any lengthening or shortening of the supporting-rope during the folding or unfolding operation, as such a straw-stacker forms the subject-matter of and is claimed in my application, Serial No. 506,133, filed April 2, 1894, of which application this is a division.

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

1. The combination with a supporting-frame, of a stacker or carrier frame hinged to the supporting-frame and formed of two sections hinged together, substantially as described to permit the outer section to fold upward relatively to the inner, a frame carried by the outer section and extending upward therefrom to a position substantially in the vertical plane of the hinge which unites the sections, and a rope for supporting the stacker-frame secured at one end upon the supporting-frame, and having its other end securely

attached to the said upward-projecting frame at a point substantially above the hinge of the outer section, substantially as set forth.

2. The combination with a supporting-frame, of a carrier-frame hinged to the supporting-frame and formed with two sections hinged together, a frame carried by the outer section of the carrier-frame and projecting upward therefrom, and a rope connected with the said frame and also having attachment on the supporting-frame, the said frame carried by the outer section of the carrier being so disposed that the point where the rope is attached thereto crosses the line connecting the hinge of the outer section and the point of attachment for the rope on the main frame, during the time that the outer end of said outer section is moving around said hinge from its vertical position to its innermost position, substantially as and for the purposes set forth.

3. The combination with a supporting-frame, of a carrier-frame hinged thereto and formed in two sections which are hinged to each other, the said hinge being so disposed as to permit the outer section to swing upward relative to the inner section, and a rope for supporting the carrier-frame having attachment to the supporting-frame and extending thence, independently of the inner carrier-section, to the supporting-frame and secured to the outer section in or nearly in the vertical plane of the aforesaid hinge, substantially as set forth.

4. The combination with a supporting-frame, of the carrier-frame hinged thereto, and having two sections hinged to each other, the hinge uniting the said sections being disposed so as to permit the outer section to swing upward relative to the inner section, abutments below the said hinge, a rod or frame, 18, extending upward from the outer section and the rope having attachment on the supporting-frame, and on the said rod or frame, 18, at a point in or nearly in the vertical plane of the hinge of the outer section, substantially as set forth.

5. The combination with the supporting-frame, of the carrier-frame hinged to the supporting-frame and having two sections hinged together, the hinge uniting the two sections permitting the outer section to fold upward relative to the inner section, a rod or frame, 18, carried by the outer section adjacent to the hinge, the rope for supporting the carrier-frame secured to the said rod or frame, the rope-winding devices arranged upon the supporting-frame and the swinging frame arranged adjacent to the rope-winding devices and provided with a bearing or attachment for the rope, substantially as set forth.

6. The combination with a supporting-frame, of a carrier-frame hinged to the supporting-frame, and formed with two sections which are hinged together, a rope for supporting the carrier-frame having attachment to the supporting-frame, and a frame or bar secured to the outer section near its inner end and having the rope secured thereto, the point of attachment of the rope being arranged to swing about the hinge which unites the two carrier-frame sections from a point in a horizontal plane above the said hinge to a point in a horizontal plane below the said hinge, whereby the rope, without being lengthened, can lie in a line above the hinge and also in a line below the hinge while sustaining the weight of the carrier-frame, substantially as set forth.

7. The combination with a supporting-frame, of a carrier-frame hinged thereto and formed of two sections hinged to each other, substantially as described to permit the outer section to fold upward relatively to the inner, a rope for supporting the carrier-frame in working position connecting with the supporting-frame and the outer section of the carrier-frame, and an upward-extending bar or frame carried by the outer section of the carrier-frame and connected with the said rope and arranged to carry the rope downward as the upper section is being moved upward upon its hinge, substantially as set forth.

JOHN B. BARTHOLOMEW.

Witnesses:
J. L. McKITTRICK,
H. H. BLISS.