

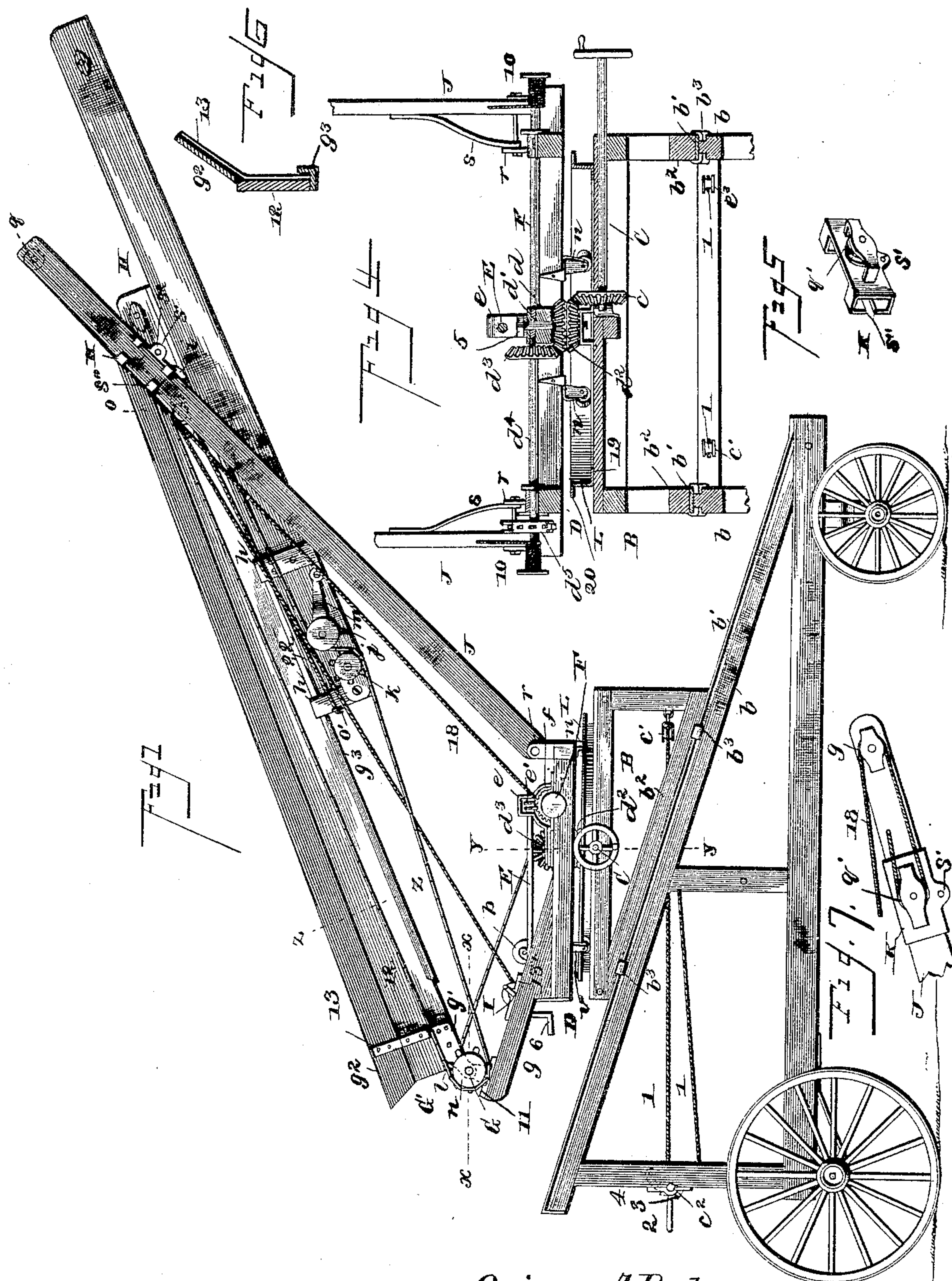
(No Model.)

2 Sheets—Sheet 1.

Q. A. POSTON.  
STRAW STACKER.

No. 432,953.

Patented July 22, 1890.



Quincy A. Poston. Inventor

Witnesses  
John Inman  
E. M. Johnson

by *[Signature]* Attorney.



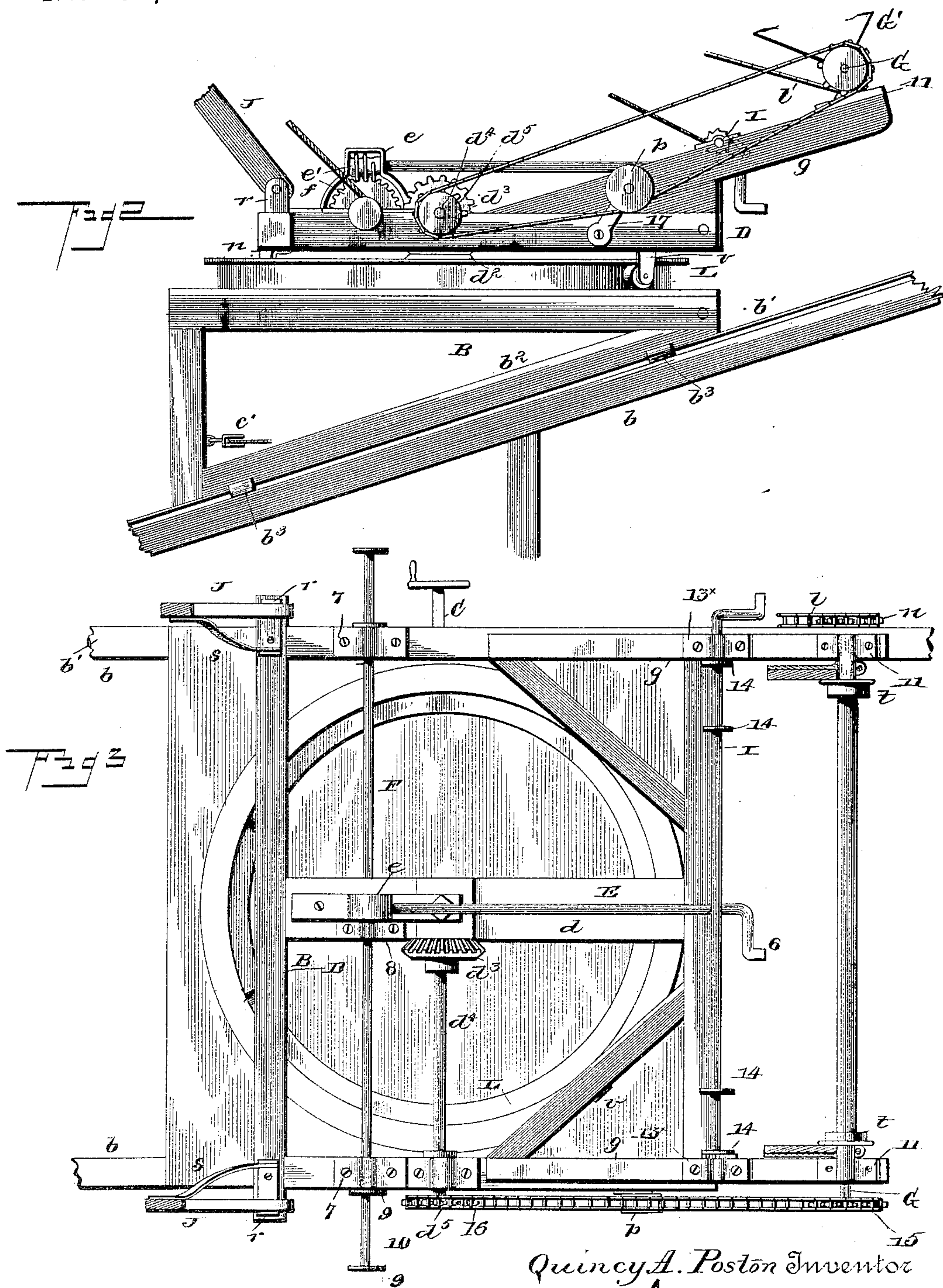
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Witnesses  
*John L. Sprague*  
*C. M. Johnson*

by *[Signature]*

Attorney



# UNITED STATES PATENT OFFICE.

QUINCY A. POSTON, OF NEW SALEM, INDIANA, ASSIGNOR OF ONE-THIRD  
TO SANFORD M. POSTON, OF SAME PLACE.

## STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 432,953, dated July 22, 1890.

Application filed November 12, 1889. Serial No. 330,100. (No model.)

*To all whom it may concern:*

Be it known that I, QUINCY A. POSTON, a citizen of the United States of America, residing at New Salem, in the county of Rush and State of Indiana, have invented certain new and useful Improvements in Straw-Stackers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to straw-stacking machines; and it consists in the improvements hereinafter described and set forth, whereby a novel and efficient apparatus is provided that can be readily and conveniently operated to carry and deliver the straw for an extended distance at any height and at any point within an extended radius and at the same time be readily contracted in compact form for storage or transportation.

In the accompanying drawings, forming part of this specification, Figure 1 is a view at one side, showing my improved machine complete. Fig. 2 is a detail view of the other side, parts being removed. Fig. 3 is a plan view taken in the plane of the dotted line  $xx$ , Fig. 1. Fig. 4 is a detail transverse section on the dotted line  $yy$ , Fig. 1; and Fig. 5 is a detail perspective view of one of the beam-castings. Fig. 6 is a detail sectional view of one side of the section  $G'$ , taken on the dotted line  $zz$ , Fig. 1. Fig. 7 is a detail view of the upper portion of one of the pivoted beams, looking at the inner side thereof.

The main supporting portion of the machine is presented by a truck comprising suitable frame-work, including parallel inclined side bars  $b\ b$  and vertical standards supporting the elevated ends of said bars  $b\ b$ , the entire frame-work carrying a fixed rear and centrally pivoted front axle provided with the necessary carrying-wheels. The upper edge of each of the inclined bars  $b\ b$  is reduced and has secured thereto a metallic strip  $b'$ , the rear ends of which are bent to embrace the ends of the bars and to be secured thereto, the side edges

of the strips overlapping at each side the reduced portion of the bars.

A platform  $B$  carries on its under side a frame-work, also having inclined bars  $b^2\ b^2$ , which rest upon the strips  $b'$ , so that the platform is always supported relatively horizontal irrespective of the longitudinal position of the bars  $b^2$  on the strips, and each of the latter is provided adjacent to its respective ends with clips  $b^3$ , which embrace the projecting edges of the rails, so that the inwardly-bent ends lie beneath said edges and prevent the disengagement of the platform-frame from the strips, while allowing a longitudinal movement therein.

A transverse shaft  $C$  bears in the frame-work beneath the platform and carries a crank at its projecting end, while centrally it has keyed thereto a bevel gear-wheel  $c$ , a portion of which projects up through a central opening in the platform. The transverse bar at the front of the platform-frame has pulley-blocks  $c'$  on its rear side, around which pass cables 1, the ends of which are connected to a shaft  $c^2$ , mounted in boxes on the rear standards of the truck, the projecting end of said shaft carrying an operating-crank 2, a ratchet-wheel 3, located on said shaft, adapted to be engaged by a pivoted pawl 4 on the adjacent portion of the truck, furnishing a means for locking the shaft against reverse rotation, which the downward tendency of the platform and its frame exert.

A skeleton frame  $D$  has a central longitudinal brace  $d$ , pivotally mounted on the central stub-shaft  $d'$ , and beneath said brace  $d$  the stub-shaft has keyed thereto a reversed double-beveled gear-wheel  $d^2$ , the lower portion of which meshes with the wheel  $c$ , while the upper portion engages a bevel-wheel  $d^3$ , located on a transverse shaft  $d^4$ , mounted in bearings on the side of said brace  $d$  and on the side bar parallel therewith, the end of said shaft projecting beyond said latter bar for the attachment thereto of a sprocket-wheel  $d^5$ . The upper end of the stub-shaft  $d'$  is threaded for the engagement of the end of a nut 5 to secure the parts, and also to retain one end of a bracket  $e$ , the other end of which is connected to the forward part of the skele-



ton frame, the said bracket being bent at its top to form the housing for a worm  $e'$ , mounted on a longitudinal shaft E, bearing in said bent top, the shaft extending rearwardly and bearing in a vertical plate secured to the rear of said frame and bent at its projecting end to present an operating-crank 6. The side bars and parallel brace  $d$  also carry bearing-boxes 7 7 8, in which is secured a transverse shaft F, carrying centrally a worm-wheel  $f$  in mesh with the worm  $e'$ , and partly located in a slot of the brace  $d$ , and the respective ends of said shaft F extend beyond said side bars and have flanges 9 9 to form reels 10 10.

Inclined arms  $g$ , projecting from the rear of the skeleton frame, carry brackets 11, in which is mounted a transverse shaft G, upon which the main section  $G'$  of the carrier-frame is supported. It will be noted that the sides 12 of the section  $G'$  extend above the bottom of the same and carry upper independent strips  $g^3$ , inclined outward and secured to the sides by metal straps 13. The said sides also extend a slight distance beneath the bottom of said section for the attachment thereto of metallic strips  $g^3$  of a greater width than the edges of the lower extended portions of the said sides, the outer portions of the same being bent at right angles, as shown in Fig. 1.

The outer section H of the carrier-frame has its sides bearing against the strips  $g^3$  below the section  $G'$ , and is provided on each side adjacent to its inner end with clips  $h$   $h$ , the upper portions of which are bent to engage the outer angular portions of the strips  $g^3$ . At one side and near its outer end the section  $G'$  carries a grooved pulley  $i$ , and on the same side the adjacent portion of the section H carries a spring-arm  $m$ , having a like pulley  $j$ . A sprocket-wheel  $k$  is mounted on a journal projecting from the side of the section H. A chain  $l$  passes around the pulley  $i$  and around the pulley  $j$ , and thence in engagement with the sprocket-wheel  $k$ , the spring-arm  $m$  carrying the pulley  $j$ , causing the latter to act as a belt-tightening medium. The belt  $l$  then passes around a sprocket-wheel  $n$ , mounted on the projecting end of the shaft G. A pulley  $o$ , Fig. 1, is also secured on each outer side of the section  $G'$ , and around the same passes a cord or cable 22, arranged one at each side and one end of each of which connects with an ear  $o'$ , secured to the rear end of the section H, while the other end of said cord or cable is connected with a crank-shaft I, bearing in boxes 13<sup>x</sup>, located on the rear inclined arms of the skeleton frame, said shaft I being provided with flanges 14, so as to serve as reels. The opposite projecting end of the shaft G is also provided with a sprocket-wheel 15, geared with the sprocket-wheel 16 on the shaft  $d^4$  by a chain belt  $d^5$ , which is maintained at the proper tension by passing beneath a grooved pulley  $p$ , carried by a spring-arm 17, secured to the side of the skeleton frame. A cord or cable 18 at each side of the skeleton frame is

connected at one end to the adjacent reel of the shaft F, and then passes around a pulley  $q$ , located on the inner side near the outer end of one of a pair of beams J, thence around a pulley  $q'$  on the inner side of a casting K, and is finally connected permanently to the inner side of said beam. The beams J are pivotally mounted at their lower ends in brackets  $r$ , located on the front bar of the skeleton frame, near one side thereof, and spring members  $s$ , secured to the inner sides of the beam and embracing the pivot-pins, serve to retain said beams in their proper position on their pivots, but permit them to have a limited lateral movement thereon in order to prevent strain on the connection.

Each of the castings K comprises a plate having the pulley  $q'$ , before alluded to, and four ears  $s'$ , which are bent so as to embrace the beam, but allow it to slide through the same. This plate is also provided with a perforated lug  $s'$ , which engages a pin  $s^2$ , projecting from the side of the section  $G'$ .

The shaft G carries at a point within the sides flanged wheels  $t$ , which, in conjunction with similar wheels on a shaft at the other end of the section  $G'$ , serve as supports around which one of the endless carrier-belts passes. The section H is similarly provided for a like purpose.

A circular way or track L is secured on the platform B, and is provided at its base with an inwardly extending flange 19 and at its top with a flange 20, extending in an opposite direction. Hangers  $n$ , depending from the skeleton frame, carry rollers which bear upon and move on said inner flanges, while hangers  $v$ , also depending from said skeleton frame, carry rollers which bear against the under sides of the outer flanges and properly guide the frame and its parts while rotating and at the same time prevent vibration of the same.

In operation the shaft C<sup>2</sup> on the main truck is revolved, causing the platform and parts carried thereby to move upward upon the inclined guides of the truck. The worm and worm-wheel are put in motion through the medium of the crank-shaft E, so that the reels 10 on the shaft F and cables 18 will vertically adjust the beams, thus raising and lowering the sections  $G'$  and H, after which the shaft G on the inclined arms of the skeleton frame is rotated to cause the cables to project the section H relative to the section  $G'$ , so as to extend the endless carrier portion to the desired extent. The hand-wheel of the shaft C, which will in practice be a band-pulley driven from a suitable source of power, will drive the bevel-gearing and cause the chain belts to drive the shafts of the endless carriers and also the travel of the latter.

From the foregoing it will be apparent that the machine embodying my improvements is comparatively simple and durable, and may be readily and conveniently adjusted, and controlled and contracted to a considerable degree when not in use.



I claim—

1. The combination, in a straw stacker and carrier, of a truck having inclined ways, a platform provided with similar inclined ways, and means for moving the same, and a frame D, pivotally mounted on said platform, pivotal beams J, mounted at the front, and carrier-section pivotally connected at the rear of said frame D, together with devices for moving the beams J, substantially as set forth.

2. The combination, in a straw stacker and carrier, of a supporting-truck and centrally-pivoted frame D, beams J, pivoted to the front, and section G', pivoted to the rear, of said frame D, said section G' having guides on its lower edges and connected to the beams J, a section H, bearing against said edges, devices for adjusting the position of the beams, and clips, appliances, and connections for causing the section H to travel longitudinally relative to the section G', substantially as set forth.

3. In a straw stacker and carrier, a section G', supported at one end, beams connected thereto and pivotally mounted and provided with spring members engaging their pivots, and cables and appliances for vertically adjusting said beams, substantially as set forth.

4. The combination, with the platform and pivotally-supported section G', of pivoted beams, castings K, embracing the same and hung on a pin projecting from the section G', and connections for raising and lowering said beams, substantially as set forth.

5. The combination, with the platform, of a frame centrally pivoted thereon and supporting carrier devices, a circular track or way on said platform having lower inner and outer upper flanges, and rollers on said frame bearing against both flanges, substantially as set forth.

6. The combination, with the truck having inclined bars provided with flat horizontal strips having projecting edges, of a platform-frame supporting the carrier devices and having inclined bars bearing on said strips and provided with clips bent to embrace the strips of the truck, substantially as set forth.

7. The combination, with the pivoted frame D, of beams J, pivotally mounted at the front, and carrier-section G', pivotally connected at the rear, of said platform and connected to the beams J, the section G', having guide-strips on its under side and each projecting at one side and bent, a section H, having clips engaging said bent edges, and cables and appliances for causing section H to move relative to the section G', substantially as set forth.

In witness whereof I, QUINCY A. POSTON, have hereunto set my hand and seal, at Rushville, Indiana, this 9th day of November, 1889.

QUINCY A. POSTON. [L. s.]

Witnesses:

WINFIELD S. CONDE,  
JOHANAN M. AMOS.