(No Model.) 2 Sheets—Sheet 1.

J. M. WELBOURN.

STRAW STACKER.

No. 530,294. Patented Dec. 4, 1894.

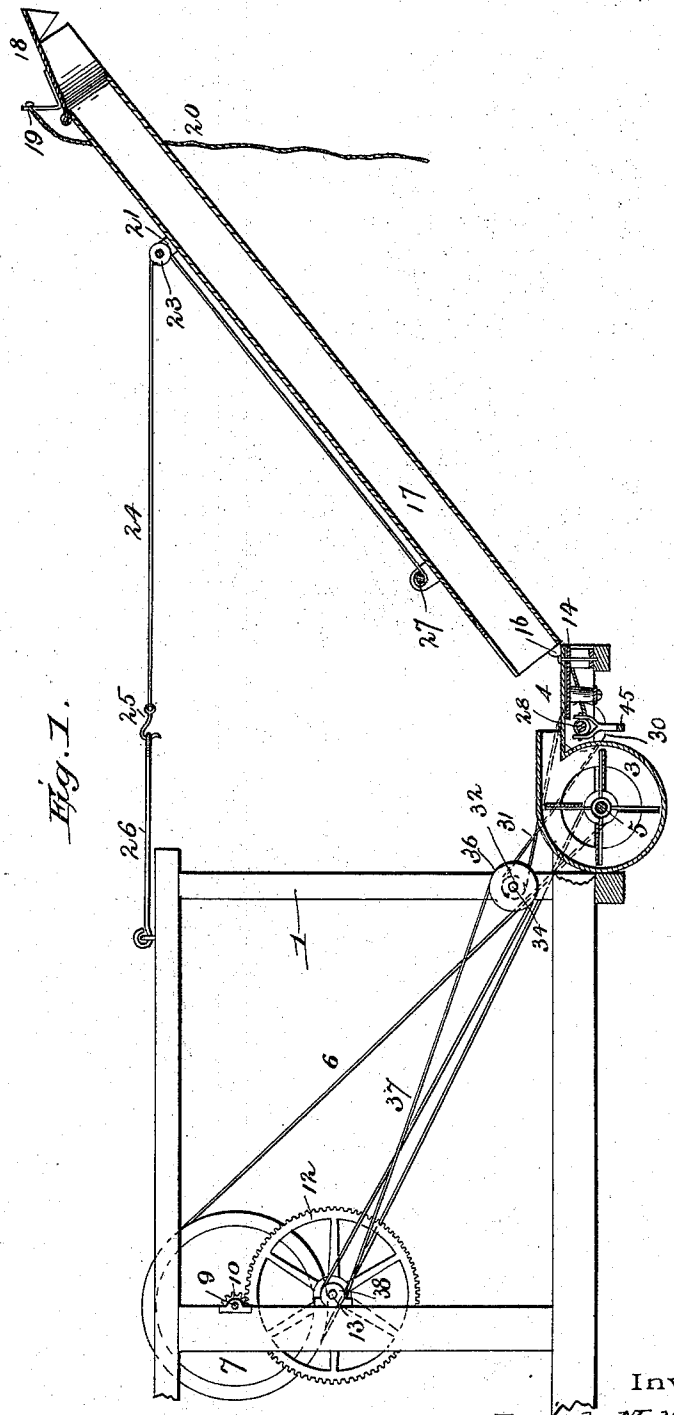

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

J. M. WELBOURN.

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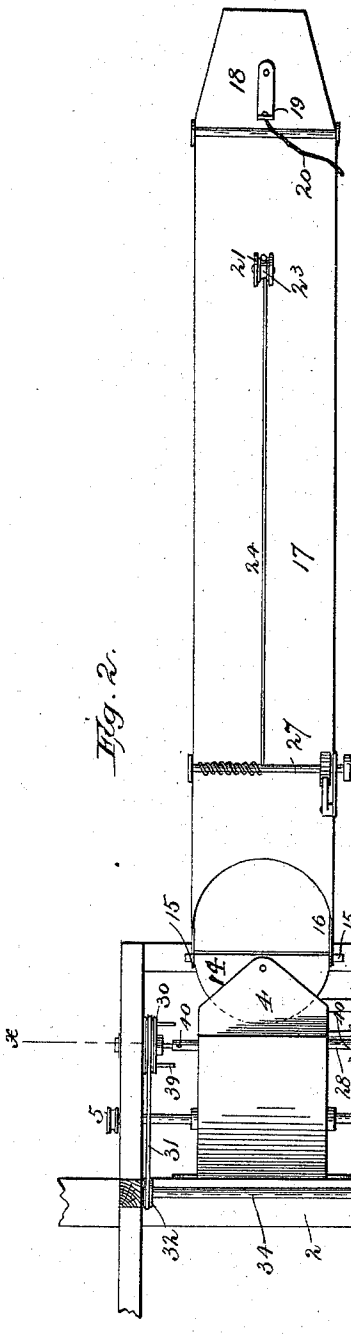

Fig. 2.

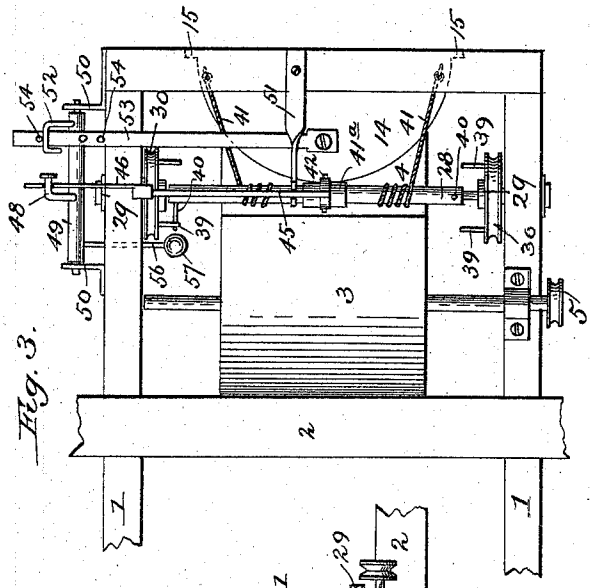

Fig. 3.

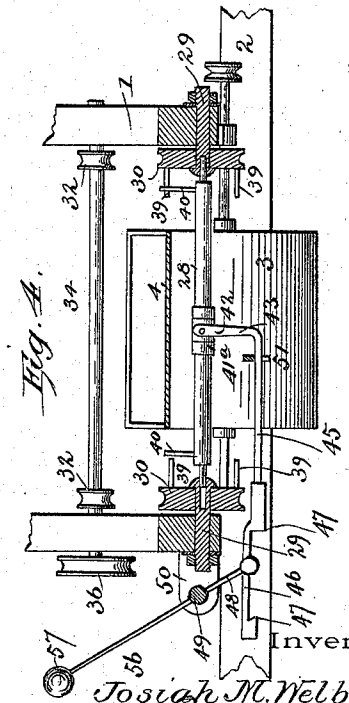

Fig. 4.

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UNITED STATES PATENT OFFICE.

JOSIAH M. WELBOURN, OF SURPRISE, OHIO.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 530,294, dated December 4, 1894.

Application filed February 24, 1894. Serial No. 501,405. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH M. WELBOURN, a citizen of the United States, and a resident of Surprise, in the county of Morrow and State of Ohio, have invented certain new and useful Improvements in Straw-Stackers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in straw stackers for thrashing machines, of that class or description in which the straw and chaff are carried away through a tube or conveyer by means of an air blast.

The object of the invention is to provide an improved construction whereby the delivery end of the tube or conveyer is automatically oscillated or moved from side to side in the arc of a circle, during the operation of the machine, so that the straw will be evenly stacked.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 represents a central longitudinal sectional view of a straw stacker constructed in accordance with my invention, also showing a portion of the frame of a thrashing machine, with which the stacker is connected. Fig. 2 is a plan view of the stacker. Fig. 3 is a similar view looking from the under side; the conveyer tube being removed. Fig. 4 is a transverse section on the line *x*—*x*, Fig. 2.

In the said drawings the reference numeral 1 designates the frame of a thrashing machine and 2 the rear axle thereof. Secured to this axle is a fan blower 3, formed at its delivery end or mouth with a plate 4, upon which the straw and chaff from the thrasher are delivered. The shaft of the blower is provided with a pulley 5, which is connected by a cross belt 6, with a wheel 7, on one end of a transverse shaft 9. The other end of this shaft is provided with a pinion 10, which meshes with a cog wheel 12, on the cylinder shaft 13, of the thrasher.

Pivoted to the under side of plate 4, is a segment plate or turn table 14, having at each end a lug 15, with which engage hooks 16, on the lower end of a conveyer tube 17. This tube at its upper end is provided with a hinged cover 18, having an arm 19, provided with a rope or cord 20, by which the cover is opened. Near its upper end the tube is provided with two lugs 21 in which is journaled a pulley 23, over which passes a rope 24, provided with a hook 25, which engages with a bail 26, pivoted to the frame of the thrasher. The other end of this rope is fastened to a windlass 27, secured to the tube 17, near the lower end. Located in front of the segment plate and a short distance therefrom is a transversely movable and rotatable shaft 28, the ends of which are reduced and journaled in lugs 29, secured to the sides of the thrasher frame. These lugs also form the journals of pulleys 30, connected by belts 31, one of which is crossed, with pulleys 32 on a shaft 34, provided with a pulley 36, which in turn is connected by belt 37, with a pulley 38 on the cylinder shaft 13. The pulleys 30 on their inner faces are provided with two pins 39, which are adapted to engage with pins 40 on the movable shaft 28 near each end thereof. Attached to and wound upon this shaft in opposite directions are two ropes 41, the other ends of which are secured to the segment plate, so that as said shaft is rotated one of said ropes will be wound upon the shaft while the other will be unwound, thus moving said plate to the right or left according to the direction of rotation of the shaft.

Secured to shaft 28 at the center thereof is a collar 41^a, having a peripheral groove, with which engages a yoke 42 on the upwardly extending arm 43 of a rod 45. Secured to the opposite end of this rod is an arm 46, having shoulders 47, with which engages a crank 48, secured to a horizontal shaft 49, journaled in bearings 50, secured to one side of the thrasher frame.

The numeral 51 designates a guide for rod 45. Also secured to shaft 49, is a crank 52, consisting of a U-shaped rod between which passes a rod or bar 53, provided with adjustable pins 54. The inner end of this bar is eccentrically pivoted to the segment or turn table 14.

The numeral 56, designates an upwardly

extending rod secured to shaft 49, provided with a weight 57, at its upper end.

The operation is as follows: The conveyer tube is given the proper inclination by means of the rope and windlass and the machine set in motion, through the medium of the cylinder shaft of the thrasher, or some other moving part thereof, causing a strong current of air to be expelled from the blower. This will cause the straw and chaff delivered from the thrasher onto the plate 4, to be carried through the conveyer tube and escape at the upper end thereof. At the same time shaft 34, will be rotated, causing pulleys 30 to be rotated in opposite directions. One of the pins 39 on one of these pulleys will engage with one of the pins 40 on shaft 28, rotating the latter and winding up one of the ropes secured thereto. This will cause the segment plate or turn table and the conveyer tube to be swung to one side. When swung as far as practicable or desirable, the rod 53 will be moved laterally in a reverse direction, causing one of the pins 54, to engage with crank rod 52, rotating shaft 49 until the trip rod 56 passes the perpendicular when it will suddenly fall tripping crank 48, which engaging with one of the shoulders of arm 46, will actuate rod 45, and move the shaft 28 laterally, causing the pin 40, to be thrown out of engagement with the pin on the pulley 30. This will cause the pin 40 on the opposite end of the shaft to be thrown into engagement with one of the pins of the other pulley and the shaft 28 to be rotated in the reverse direction and the other rope to be wound thereon by which the segment or turn table will be swung to the opposite side of the machine. This operation will be kept up continuously, the turn table and conveyer tube oscillating or swinging back and forth from side to side, as long as the machine is in operation.

For convenience in packing and transporting, the conveyer is made in two sections hinged together, so that it can be folded up.

Having thus described my invention, what I claim is—

1. In a straw stacker the combination with the blower, the rearwardly extending plate, the turn table pivoted to said plate and the conveyer tube pivotally connected with said turn table, of the laterally movable and rotatable shaft, the ropes wound thereon in opposite directions and secured to said turn table, the pins secured to said shaft, the oppositely rotating pulleys having pins on their inner faces; substantially as described.

2. In a straw stacker, the combination with the blower, the rearwardly extending plate, the turn table pivoted to said plate, the conveyer tube pivotally connected with said turn table, of the outwardly extending rod pivoted to said turn table, the pins secured thereto, the crank with which said pins engage, the horizontal shaft, the laterally movable and rotatable shaft, the ropes wound thereon in opposite directions and secured to said turn table, the pins on the ends of said shaft, the oppositely rotating pulleys having pins on their inner faces engaging therewith, the groove collar secured to said shaft, the yoke engaging with said groove, the bent rod to which said yoke is secured having shoulders near its outer end, the crank secured to said horizontal shaft and the weighted rod secured to said shaft; substantially as described.

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

JOSIAH M. WELBOURN.

Witnesses:
JAMES OLDS,
BENJ. OLDS.