

(No Model.)

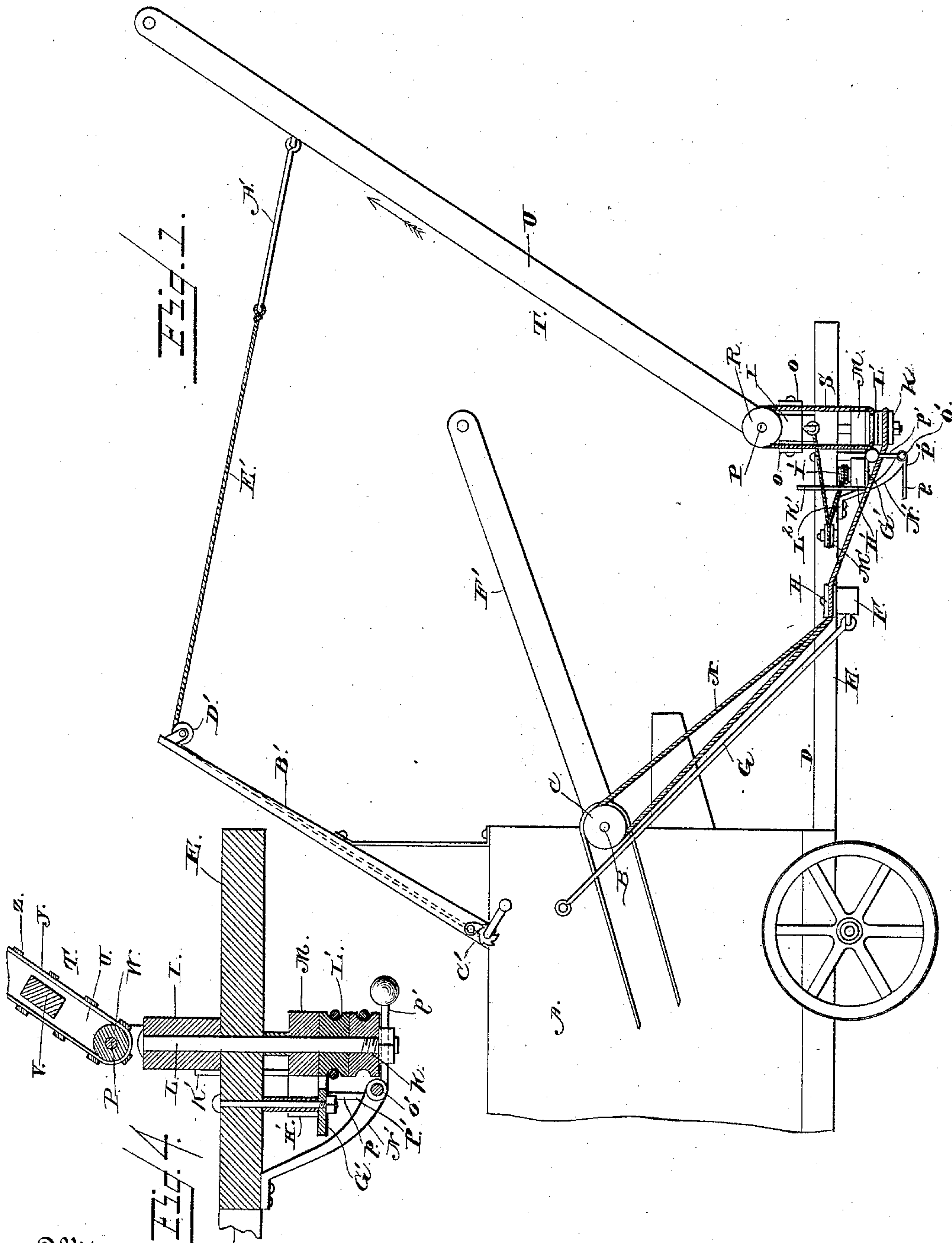
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W. U. RICHMOND.

STRAW STACKER.

No. 370,494.

Patented Sept. 27, 1887.



Witnesses

M. E. Fowler
J. W. Garner

Inventor

Wm U. Richardson

By his Attorneys

CA Snow Co

(No Model.)

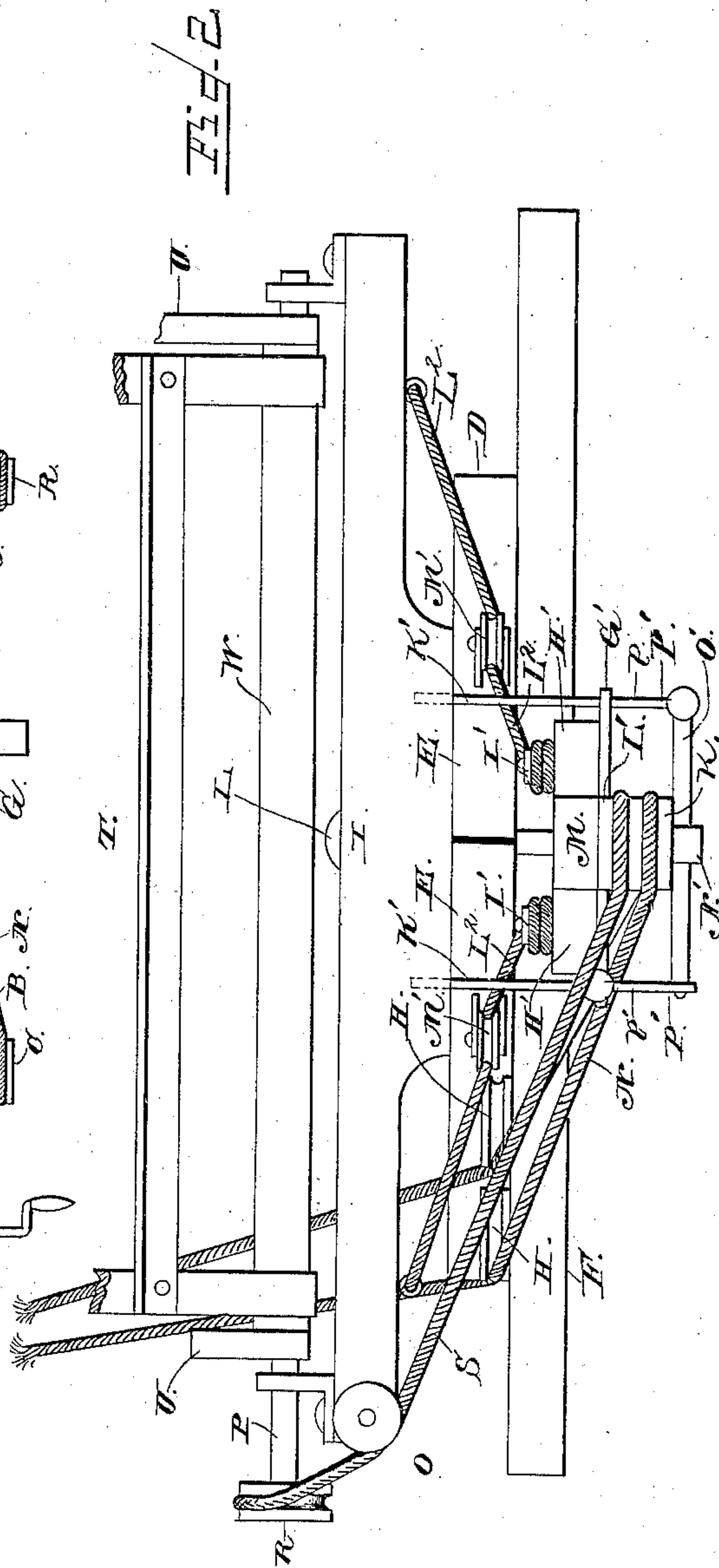
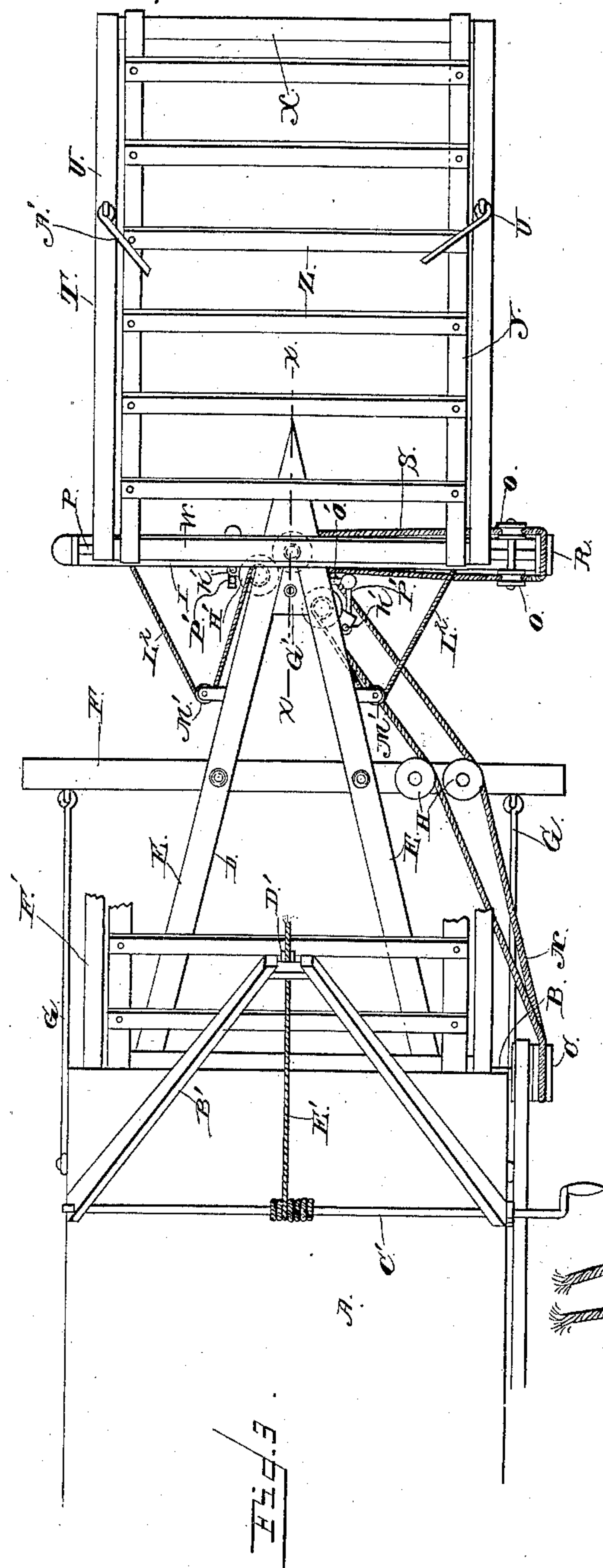
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(No Model.)

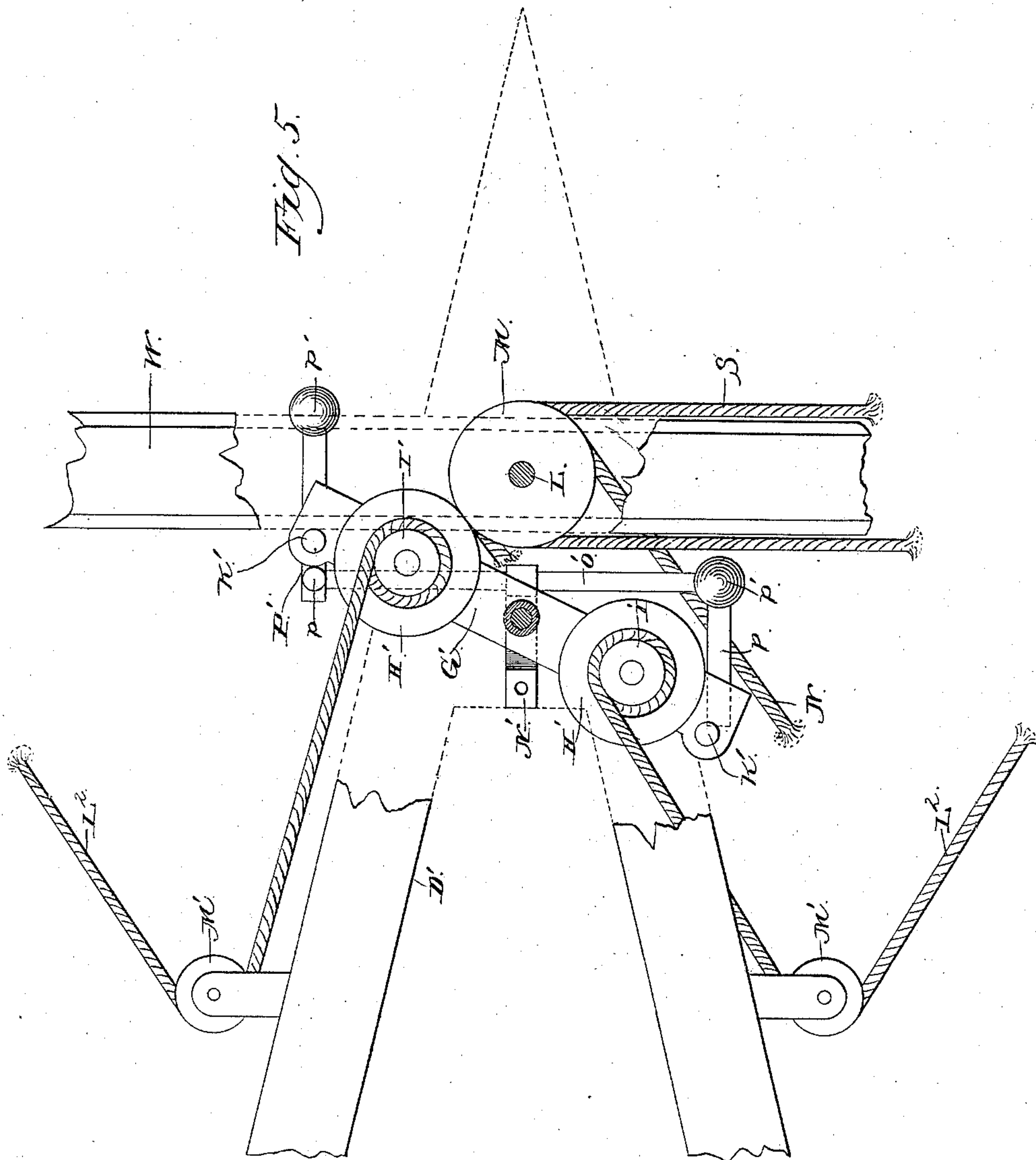
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UNITED STATES PATENT OFFICE.

WILLIAM U. RICHMOND, OF WAYNESBOROUGH, PENNSYLVANIA, ASSIGNOR
OF ONE-HALF TO GEORGE M. HARTWELL, OF SAME PLACE.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 370,494, dated September 27, 1887.

Application filed November 10, 1886. Serial No. 218,485. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM U. RICHMOND, a citizen of the United States, residing at Waynesborough, in the county of Franklin and State of Pennsylvania, have invented a new and useful Improvement in Straw-Stackers, of which the following is a specification.

My invention relates to an improvement in straw-stackers; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is an elevation of a straw-stacker embodying my improvements attached to a thrashing-machine. Fig. 2 is an end elevation of the same. Fig. 3 is a top plan view. Fig. 4 is a detail sectional view on line *xx* of Fig. 3. Fig. 5 is an enlarged detail plan view.

A represents a portion of a thrashing-machine having the rotating shaft B, provided with a driving-pulley, C. To the lower side of the discharge end of the thrashing-machine is attached a horizontal frame, D, comprising the converging beams E and the cross-beam F, which is attached to the under side of the beams E, near the center thereof. Brace-rods G connect the outer ends of the beam F with the sides of the thrasher, so as to support the frame D in a horizontal position. Near one end of the beam F, on the upper side thereof, are journaled a pair of guiding-sheaves, H.

On the upper side of the frame D, at the outer end thereof, is a bolster, I, which is pivoted upon a vertical bolt-rod, L, which extends through the center of the bolster and through the outer end of the frame. On the lower end of the said pivotal bolt are journaled pulleys K and L', which are fast to each other, and on the upper side of the pulley L', and fast therewith, is a friction-wheel, M.

N represents an endless cord or belt, which connects the driving-pulley C with the pulley K, and is guided by the sheaves H.

To one end of the bolster, on opposite sides thereof, are journaled vertical guiding-sheaves O. On the upper side of the bolster is journaled a horizontal shaft, P, which is provided at one extremity with a pulley, R. The said pulley is connected to the pulley L' by an endless cord or belt, S, which passes under and is guided by the sheaves O.

T represents the stacker-frame, comprising the side bars, U, and the cross-bars V, Fig. 4, connecting the same. The lower ends of the bars U are hinged on the shaft P, near the ends thereof, so that the stacker-frame is adapted to be tilted or inclined on the bolster to any desired angle.

On the central portion of the shaft P is a roller, W, and in the upper ends of the bars U is journaled a roller, X. Y represents an endless apron, which connects the rollers W and X, and is provided with transverse slats Z. The said endless apron and the rollers W and X constitute an endless carrier or elevator.

From the foregoing it will be readily understood that when the shaft V is rotated the motion of the wheel C will be communicated to the pulleys K, L, and M by the endless belt N, and that the motion of the pulley L will be communicated to the roller W by the endless belt S and the pulley R, so as to move the endless apron in the direction indicated by the arrow in Fig. 1.

A suitable bail, A', is attached to the upper portion of the stacker-frame, and on the upper side of the thrasher is a derrick, B', having a winch, C', at its lower end, and a sheave, D', at its upper end.

E' represents a rope, which is attached to the bail, passes over the sheave D', and is connected to the winch C', so that by rotating the latter, the stacker-frame may be raised or lowered, and thus caused to assume any desired angle.

F' represents an inclined endless carrier, which projects from the discharge end of the thrasher, and is geared to the shaft B. The function of the said carrier is to convey the straw from the thrasher to the lower end of the stacker, where it falls upon the endless apron Y, and is conveyed by the same as it travels upward to the stack.

As the bolster to which the stacker-frame is hinged is pivoted on the outer end of the frame D, it will be readily seen that the stacker may be turned or oscillated from one side of the frame D to the opposite side thereof, so as to cause the straw which is elevated by the stacker to be distributed over a considerable area, and thus enable a stack of any desired size to be formed.

G' represents a bar which is pivoted at its center under the outer end of the frame D, slightly in rear of the bolt H. To opposite ends of the said bar, on the upper sides thereof, are journaled horizontally-arranged friction-wheels H', and to the upper side of each of the said friction-wheels is attached a winding-drum, I'. By turning the bar G' on its bolt either of the friction-wheels H' may be caused to bear against the friction-wheel M, so as to receive motion from the said wheel M.

At suitable distances from the ends of the bar G' project vertical tappet-arms K', which are adapted to be struck by the bolster when the latter swings on its pivotal bolt so as to turn the bar G'. To each end of the bolster is attached the outer end of a cord or rope, L', the inner ends of the said cords or ropes being attached to the drums I' on the friction-wheels H', and the said cords or ropes are guided by suitable sheaves, M'.

It will be noted that when one of the friction-wheels H' is in contact with the friction-wheel M, and is rotated thereby, the said friction-wheel H' will cause its drum I' to wind upon the rope which is attached thereto, and thus draw upon one end of the bolster, so as to cause the stacker to turn on its pivotal bolt, and at the same time the other friction-wheel H' will unwind the rope attached thereto. The bolster continues to swing until it comes in contact with one of the tappet-arms K', when it immediately reverses the position of the bar G', thereby disengaging the friction-wheel H' and causing the wheel at the opposite end of the bar to engage the friction-wheel M, when the stacker will be swung in the reverse direction, and this operation is repeated constantly during the operation of the machine, so that while the stacker is at work it will be swung first to one side and then to the other, so as to distribute the straw evenly upon the stack.

From the outer side of the frame D, near the outer end thereof, depend brackets N', to the lower ends of which is attached a transverse horizontal bar, O'.

P' represents bell-crank levers, which are pivoted on the ends on the bar O', and have the right-angled arms p and p', the latter being weighted at their outer ends. When the bar G' is in the position shown in Fig. 3, with one of its wheels H' bearing against the wheel M, the weighted arm of one lever P' is in a vertical position and the weighted arm of the other lever P' is in a horizontal position, thus causing the unweighted arm p thereof to assume a vertical position and bear against the rear side of the bar G' with sufficient pressure

to insure the necessary friction between the wheels H' and M. When the bar G' is turned to the reverse position by the swinging bolster, the bell-crank levers are reversed, thus causing the other wheel H' to be held in frictional contact with the wheel M.

Having thus described my invention, I claim—

1. The combination, in a stacker, of the frame D, the bolster, the pivotal bolt connecting the bolster to the frame, the rotating pulley L' and the wheel M on the said pivotal bolt, the endless elevating-carrier hinged to the bolster, and having the pulley R to actuate the carrier, the endless belt connecting the said pulleys R and L', the swinging bar G', having the wheels H', adapted to alternately engage the wheel M, the said wheels having the drums I', and the cords or ropes attached to the stacker and connected to the said drums, substantially as described.

2. The combination of the swinging stacker, the rotating wheel M, the swinging bar G', having the wheels H' adapted to alternately engage the wheel M, the said wheels having the drums I', and the cords or ropes attached to the swinging stacker and connected to the said drums, substantially as described.

3. The combination of the swinging stacker, the rotating wheel M, the swinging bar G', having the wheels H' to alternately engage the wheels M, and connected to the stacker to swing the same, and the weighted levers P' to hold the wheels H' alternately in engagement with the wheel M, substantially as described.

4. In a stacker, the combination of the swinging bolster, the rotating wheel M, and the swinging bar G', having the wheels H' to alternately engage the wheel M, and the arms K', near its ends, and for connecting the wheels H' with the bolster to swing the latter, substantially as described.

5. The combination of the swinging bolster, the endless elevating-carrier hinged thereto, the rotating wheel M, the swinging bar G', having the tappet-arms K' and the wheels H' connected to the stacker, and the weighted levers P', arranged in the path of the bar G', and adapted to hold the wheels H' alternately in engagement with the wheel M, substantially as described.

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

WILLIAM U. RICHMOND.

Witnesses:

Z. I. GITTINGER,
P. B. McCLEERY.