

(No Model.)

2 Sheets—Sheet 1.

M. N. LAUFENBURG.

DERRICK TABLE AND FEEDER FOR THRASHING MACHINES.

No. 286,316.

Patented Oct. 9, 1883.

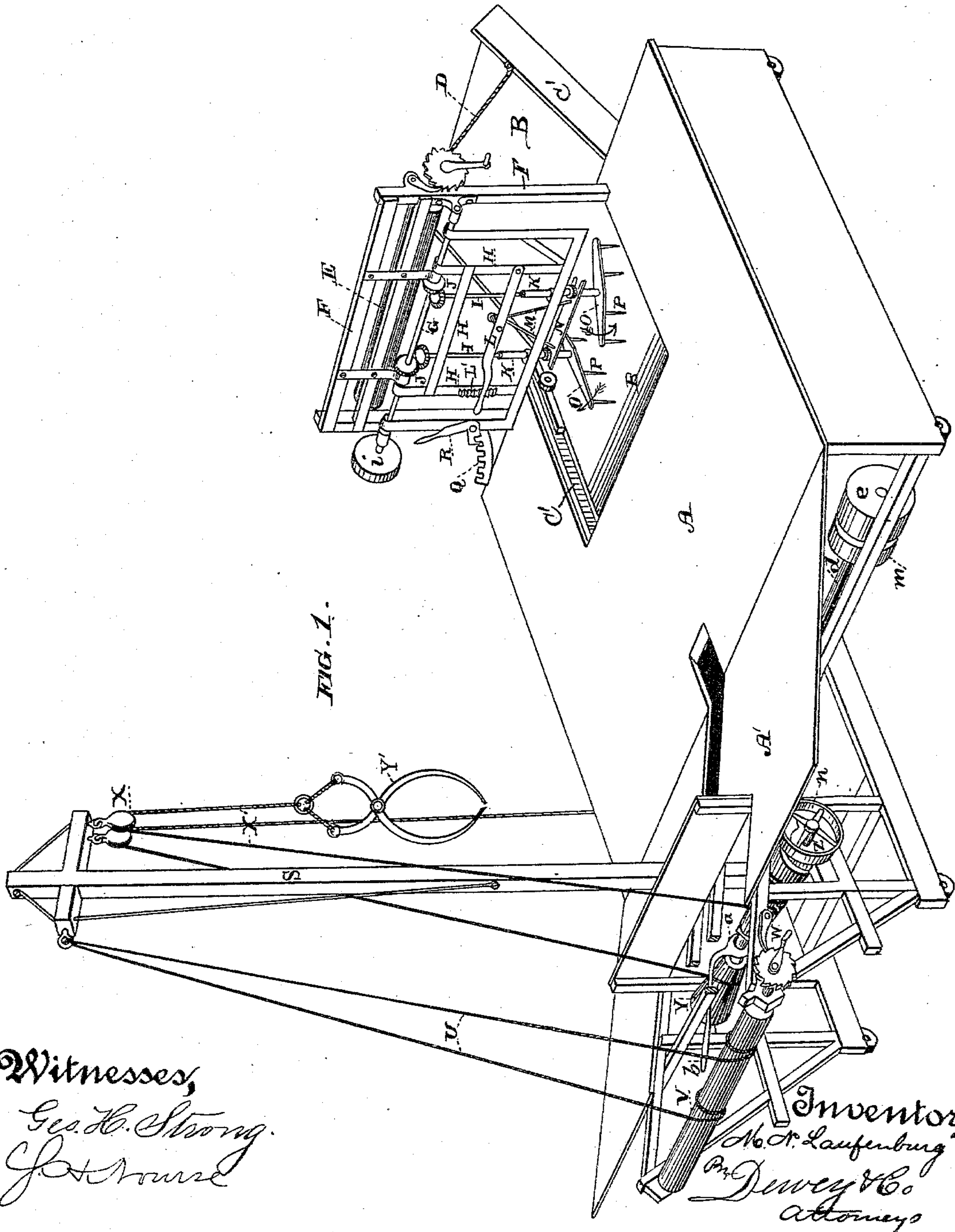


FIG. 1.

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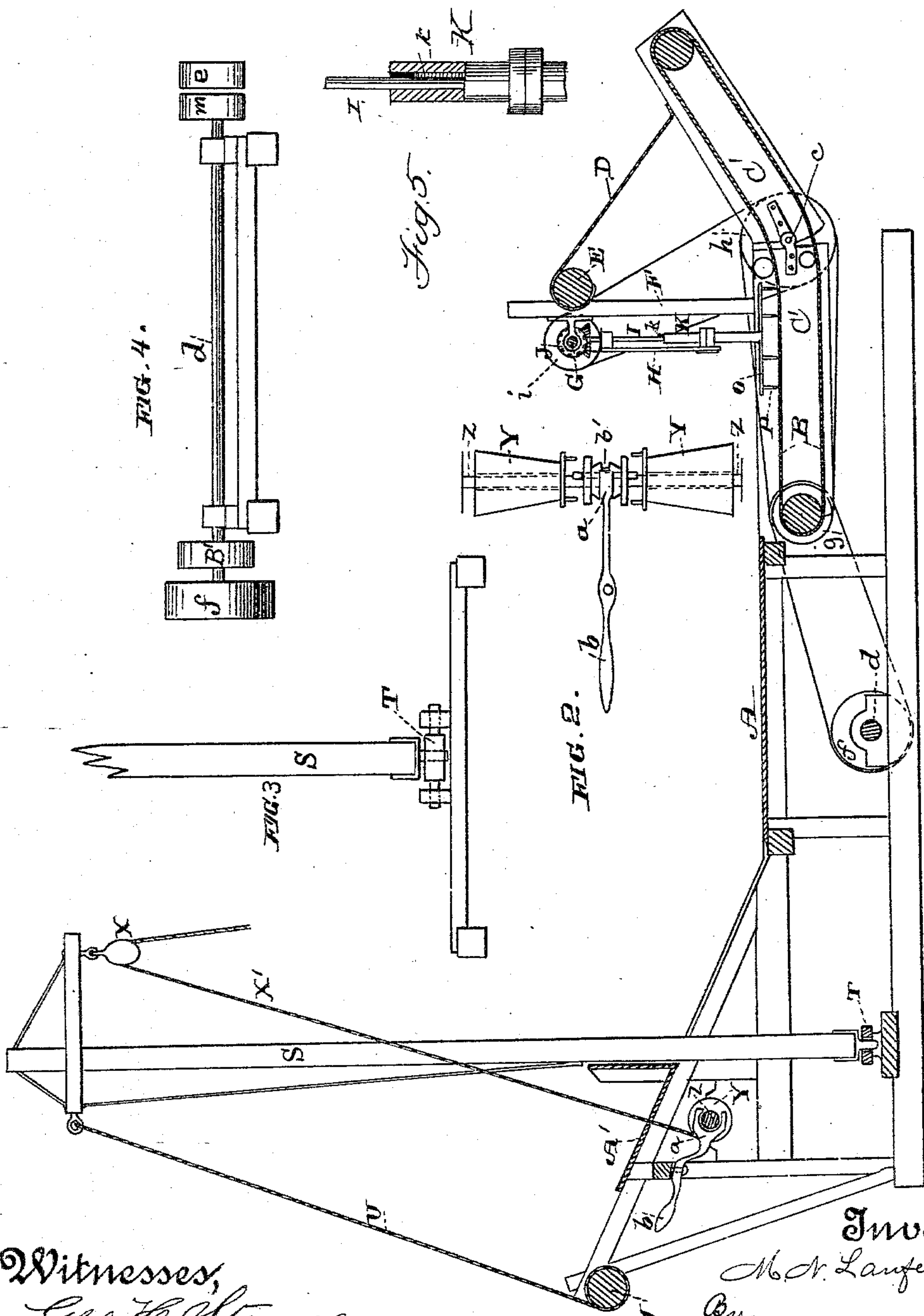
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UNITED STATES PATENT OFFICE.

MICHAEL N. LAUFENBURG, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO
BAKER & HAMILTON, OF SAME PLACE.

DERRICK-TABLE AND FEEDER FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 286,316, dated October 9, 1883.

Application filed March 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL N. LAUFENBURG, of the city and county of San Francisco, State of California, have invented an Improved
5 Derrick-Table and Feeder for Thrashing-Machines, of which the following is a specification.

My invention relates to an apparatus which is to be used in connection with thrashing-
10 machines; and it consists in certain details of construction and arrangement of parts, as hereinafter fully described and claimed.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my apparatus. Fig. 2 is a longitudinal vertical section taken through the center of Fig. 1. Figs.
15 3, 4, and 5 are details of construction.

A A' is a table, which is supported upon a
20 frame-work mounted upon bearing-wheels, by which it may be moved from place to place. At the front this table inclines upward, as seen at A', the object of which is to cause the unthrashed grain which falls upon it from the derrick-
25 fork to be thrown backward upon the horizontal portion of the table and into close proximity with the feeder-belt B. The center of the portion A of the table is cut away at the rear a short distance, and of a width sufficient
30 to admit the feeder-belt frame C', so that the front portion of the belt B lies within this open space and a little below the level of the table. By this construction of the table and relative arrangement of the belt the latter is easily
35 kept supplied with straw by the operator, who is supposed to stand at the farther side, Fig. 1, within reach of levers R, L, and b, and where he can easily break up or prevent clogging.

The rear portion of the feeder-belt frame
40 C' is hinged to the front portion at c, so that that portion of the belt may be elevated or depressed to adjust it to the relative position of the cylinder and the table, as this will depend upon the character of the ground upon
45 which the machine is set. The adjustment of the rear of the feeder-belt is made by chains or ropes D, which lead from the frame up to a roller or drum, E, journaled upon a frame, F, and having a crank and pawl and ratchet
50 by which it may be operated and held at any desired point. A horizontal shaft, G, extends

across the frame F, and a swinging frame, H, is swung from it, so as to extend downward toward the belt B. Upon this swinging frame are two vertical shafts, I, turning in boxes and
55 driven from the shaft G by bevel-gears J J. These shafts are telescoped, Fig. 5, so that the lower parts, K, may be raised or lowered, and held in position by the lever L, toothed rack L', and the rods M, connecting the lever
60 with the cross-bar N, which unites the two movable parts of the shafts. The two parts of the shafts are united by a feather, k, and slot, so that both may rotate together while the lower portions may be adjusted up or
65 down. The lower ends of the shafts have distributors secured to them consisting of transverse bars O, with teeth P projecting vertically downward toward the feeder-belt B, above
70 which they are placed. When the straw is raked or pitched upon the belt, the tendency is to throw the greatest quantity to the center, while the edges carry but little. The distributors rotate from the center toward the outside
75 toward the table, and thus hold back the approaching straw and throw a portion toward the outside edges, so that the whole length of the cylinder is evenly supplied.

A rack, Q, is fixed at one side of the frame F, and a lever, R, with a pawl which engages
80 with the rack, is attached to the swinging frame H, so that the latter may be set vertically or at an angle forward or back. This, together with the means for raising or lowering the distributors, enables me to adjust the
85 feed for long, short, wet, and dry straw, and regulate it as desired.

At the front the inclined portion A' of the table is slotted, to allow the derrick-mast S to pass through. The foot of the mast has a
90 pin, which enters a hole in a plate, T, as seen in Fig. 3. This plate has journals at each end supported upon a cross-timber of the frame, near the bottom, and ropes U extend from the cross-beam at the top of the derrick-mast to a
95 drum or roller, V, which is supported at the front of the table, and is provided with a crank, W, and pawl and ratchet to hold the drum stationary after the mast has been raised to a vertical position. When the apparatus is
100 to be moved, the mast may be lowered by unwinding the rope from the drum until its

upper end rests upon the top of the frame F, the slot in the table through which it passes being long enough to allow it to be lowered as far as necessary. Pulleys X are suspended
 5 from one end of the cross-beam at the top of the mast, and ropes X', attached to the derrick-forks, pass over them, and thence down to the conical drums Y, below and in front of the table. These drums are mounted loosely
 10 upon a shaft, Z, and between them is a clutch, a, provided with a lever, b, traveling in a slot, b', in said clutch. This clutch slides on a feather upon the shaft and rotates with it, while it may be moved longitudinally upon
 15 it. When one of the forks is to be raised, the clutch is engaged with the drum upon which its rope is coiled, and as the rope first winds upon the smaller part of the drum, it will exert the greatest power to start the fork
 20 with its load, after which it may move faster until it is lifted over the table ready to be discharged. Meanwhile the other fork has been loaded, and the clutch is moved horizontally, so as to disengage from the first drum and en-
 25 gage with the other; the forks thus working alternately.

An important feature in my apparatus is the horizontal shaft d, journaled in boxes upon the frame beneath the table. When the thrash-
 30 ing is done without my table and shaft, the driving-belt from the engine-pulley passes directly to a pulley upon the separator-frame, and the feeder, when one is used, is driven by a belt from the separator, thus subjecting
 35 the separator to considerable strain. In my machine this table is set between the engine and the separator, and the main belt from the engine passes beneath the inclined portion A' of the table to a pulley, B', upon the
 40 shaft d, which I call a "distributing-shaft." Upon one end of this shaft is a pulley, e, from which a belt passes to the pulley of the thrashing-cylinder upon the separator. Upon the opposite end of the shaft d is a pulley, f, from
 45 which a belt leads to a pulley, g, upon the end of the shaft carrying the feeder-roller, and a second belt may run upon the top of the first one, extending beyond the pulley g to a pulley, h, at the joint of the feeder-belt frame,
 50 so as to drive a shaft from a pulley upon which a belt passes to a pulley, i, upon the shaft G upon the frame F, thus driving the distributors O P, as before described. An-
 55 other pulley, m, is fixed to the shaft d, from which a belt passes to the pulley n upon the shaft Z, by which the hoisting-drums Y are driven. By this construction it will be seen that the feeder, the receiving-table, derrick, shafting, and pulleys are all in one apparatus,
 60 and that there is only one setting necessary when change is made from one location to another. By means of this intermediate or dis-

tributing shaft one belt is dispensed with which would be necessary in the usual construction of machines. 65

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

1. The table A A', having the front portion, A', inclined to throw the straw backward, and the rear portion, A, cut away, in combina- 70
 tion with a straw-feeding belt, B, and the frame C', which is permanently attached to the table, as set forth.

2. The herein-described straw-carrier and 75
 derrick, comprising the table A A', having its front portion inclined and its rear portion cut away, as shown, the feeder-belt B, feeding mechanism, derrick-mast S, table-frame, the ropes X', pulleys X, drums Y, shaft Z, and 80
 derrick-forks Y', as set forth.

3. The table A A', the front portion, A', being slotted, as shown, in combination with the derrick-mast S, passing through the slot, the plate T, and ropes U, and means for lowering 85
 and elevating the derrick-mast thereby, as set forth.

4. The derrick-mast S and the pulleys X, ropes X' and forks Y', in combination with the conical drums Y, shaft Z, clutch a, and 90
 operating-lever b, between said drums, and pulley n on said shaft Z, as set forth.

5. The table A A' and belt B, in combina- 95
 tion with the swinging frame H, shaft G, distributors O P, driving-shafts I, bevel-gears J, and pulley i, to which the motion is imparted, as set forth.

6. The belt B, distributors O P, suspended swinging frame H, and the telescopic shafts I K, in combination with the lever L, rack L', 100
 connecting-rods M, and bar N, as set forth.

7. The horizontal shaft G, frame-work F, swinging frame H, supported from said shaft, and the distributors O P, in combination with the fixed rack Q and pawl-lever R, for the 105
 purpose set forth.

8. The distributors consisting of the bars O and the downwardly-projecting teeth P, and shafts I K, in combination with the belt B, bevel-gears J, and horizontal driving-shaft G, 110
 constructed to throw the straw outward from the center, as set forth.

9. The combination of the table, the frame, a transverse driving-shaft journaled beneath the table, the feeding-belt, the distributors, 115
 the derrick, the forks, and intermediate mechanism connecting said parts with the driving-shaft, substantially as set forth.

In witness whereof I hereunto set my hand.

MICHAEL NEY LAUFENBURG.

Witnesses:

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 N. L. COLLAMER.