460-71

M7843 OR EX 259,748

(No Model.)

R. H. COON

THRASHING MACHINE.

No. 259,748. Patented June 20, 1882.

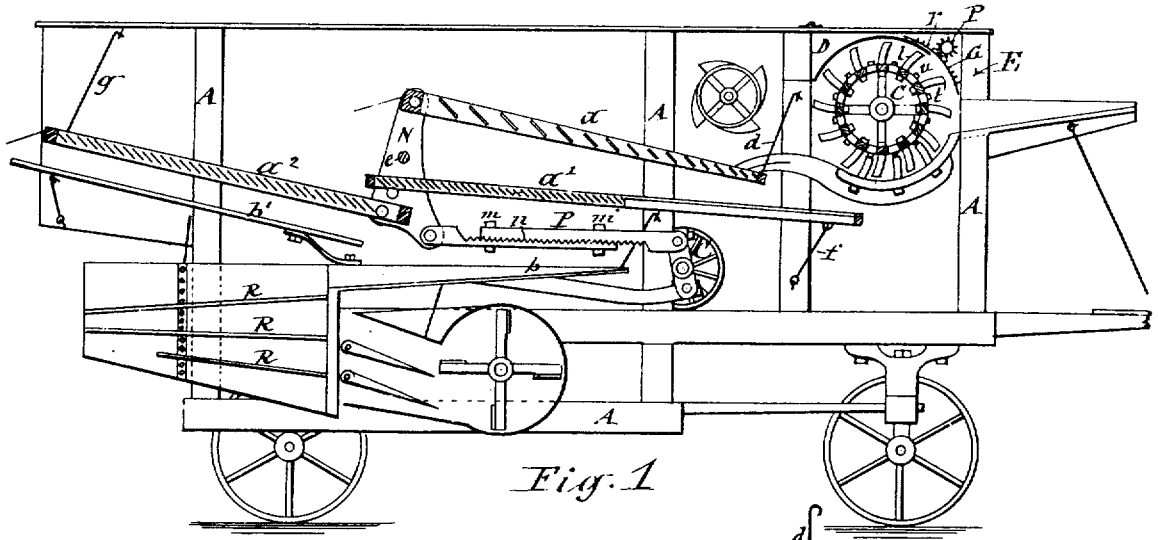

Fig. 1

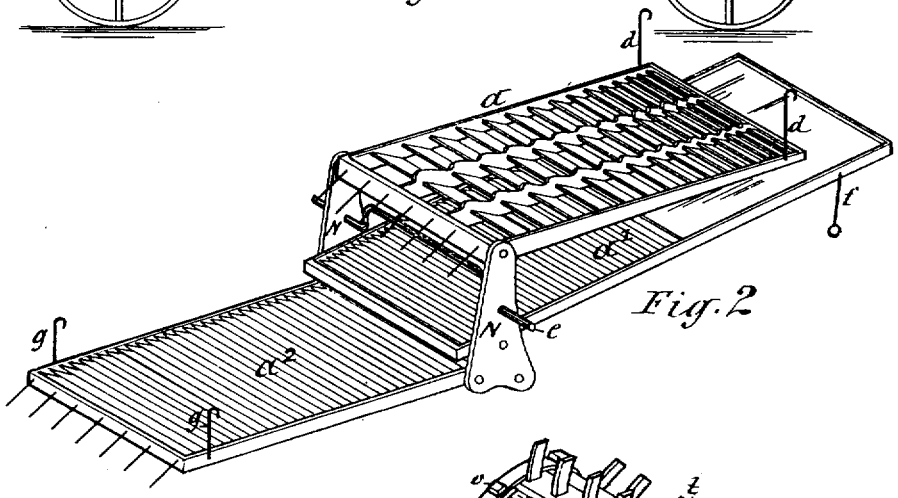

Fig. 2

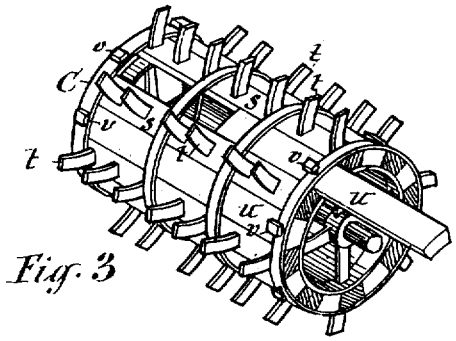

Fig. 3

WITNESSES=

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UNITED STATES PATENT OFFICE.

RILEY H. COON, OF ONEIDA LAKE, NEW YORK.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 259,748, dated June 20, 1882.

Application filed February 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, RILEY H. COON, of Oneida Lake, in the county of Madison, in the State of New York, have invented new and useful Improvements in Thrashing-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain novel improvements in the construction and combination of various parts of a thrashing-machine, whereby the same is rendered adjustable, more effective, and in some respects more convenient in its operation, all as hereinafter more fully explained.

In the annexed drawings, Figure 1 is a longitudinal vertical section of a thrashing-machine embodying my improvements. Fig. 2 is a detached perspective view of the separating-racks, and Fig. 3 a detail view of the thrashing-cylinder.

Similar letters of reference indicate corresponding parts.

A represents the frame, which supports and to a great extent incloses the thrashing mechanism.

C denotes the thrashing-cylinder, journaled on the sides of the front end of the frame, and inclosed in a case, D, provided with a feed-opening, E, through which to introduce the substance to be thrashed.

Across the opening E, I place a segmental gate, G, which slides in grooves or on ways on the inner side of the case D. The end of said gate I provide with a rack, *r*, in which meshes a pinion, *p*, which is fixed to an axle journaled on the side of the frame, said axle protruding at the outside of the frame, and being adapted for the application of a wrench or crank by which to turn said pinion, so as to either elevate or lower the gate G, and thus regulate the feed-opening E, according to the nature of the substance to be introduced to the thrasher. Heretofore this adjustment was partly effected by raising and lowering the front of the top plate of the frame, which plate is usually hung on hinges at its rear edge. The consequence was that the dust from the thrasher escaped around the elevated top plate, to the annoyance of the person feeding the machine, which defect is effectually overcome by my improved adjustable gate.

The thrashing-cylinder C, I form of a skeleton frame, or circular plates fixed to the shaft, and longitudinal strips *s*, secured to the periphery of said plates and provided with the usual teeth, *t*, which, in conjunction with teeth on the concave bottom of the case D, accomplish the thrashing of the grain.

Between the strips *s*, I insert removable plates *u*, retained in their position on the cylinder by means of set-screws *v*, which clamp said plates on the end of the cylinder-frame, as shown in Fig. 3 of the drawings.

By the removable slats or plates *u*, I obtain the advantages derived from the usual solid and unbroken surface of the cylinder, and at the same time obtain ready access to the interior thereof for cleaning the same and for manipulating the nuts which fasten the external teeth of the thrashing-cylinder, thus facilitating the attachment and repairs of said teeth.

a represents the primary separating-rack, suspended at its front end by a vibratory rod, *d*. The rear end of said rack is hung on the upper end of two rock-arms, N, pivoted on opposite sides of the frame A, as shown at *c*, said rock-arm carrying the rear end of the rack *a* relatively higher than the suspended front end, so as to retard to a certain degree the rear movement of the straw on said rack and afford to the same sufficient time to effectually separate the fine straw, chaff, and grain from the coarse straw, said separation being effected by the reciprocating and synchronous slightly rear tilting motion imparted to the rack by the rock-arm N, which receives its motion from a pitman and crank-shaft, hereinafter described.

The primary rack, *a*, is constructed of transverse slats secured in a forwardly-inclined position to side rails, which are connected to the suspension-rods *d* and rock-arm N before mentioned. The slats of the rack *a* are arranged a sufficient distance apart to allow the fine straw, chaff, and grain to escape through the interstices, and cause the coarse straw to pass over the top of the slats and to be propelled toward the rear end of the rack. The distances between the slats of the rack are gradually enlarged from the front or receiving end

of the rack toward the rear or delivery end thereof, as shown in Fig. 2 of the drawings.

Underneath the primary separator-rack, *a*, is a secondary separating-rack, *a'*, arranged in a less inclined position, and with slats set closer than those of the primary separator *a*. Its rear end is hung on the rock-arm N, below the pivot *e* thereof, and at a shorter distance therefrom than the connection therewith of the primary separator, thereby imparting a shorter stroke to the rack *a'* than to the rack *a*. The front end of the rack *a'* is supported on the upper end of a forwardly-inclined vibratory rod, *f*, connected to the side of the frame A, said secondary separator thus receiving a similar motion as the primary separator.

Both of the aforesaid separators have their rear or delivery end over the front end of a tertiary separating-rack, a^2, which is extended to the rear end of the machine. The front end of said rack a^2 is hung on the rock-arm N relatively lower than the rear end of the secondary separator, *a'*, the rear end of the rack a^2 being suspended on a vibratory rod, *g*, in such a position as to impart to said rack its requisite rear-tilting motion simultaneously with the reciprocating movement received from the rock-arm N.

b and *b'* are two grain-tables or inclined conveyers, one of which is arranged underneath the secondary separating-rack, *a'*, and is extended to and combined with the upper or first of the usual sieves or riddles, R, which finally clean the grain. The other grain-table, *b'*, is arranged under the tertiary separating-rack, a^2, and has its lower or delivery end over the grain-table *b*, which latter delivers the contents of both grain-tables to the sieve R, to be cleaned in the usual manner.

By means of the three separating-racks *a a'* a^2, constructed, arranged, and operating in the manner described, a quicker and more effectual separation of the thrashed substance is obtained. The primary separator, *a*, delivers nothing but coarse straw to the tertiary separator, a^2, and by its having a greater thrust than the secondary separator, *a'*, it delivers its straw in advance of that of the latter, thus allowing each of the deliveries to be, to certain extent, independently operated on by the separator a^2. The fine straw, chaff, and grain are, in the first instance, separated from the coarse straw and subjected to a secondary separating process, which delivers the fine straw and chaff to the tertiary separator and the grain in a comparatively clean condition to the sieves or riddles.

P is the pitman, which imparts the oscillating motion to the rock-arm N, it being connected thereto at its forward end, and to a crank-shaft, *c*, at its front end, said crank-shaft extending across the frame A, and having connected to its outer end the driving-pulley. This pitman I make in two sections spliced together, as represented at *n*, by overlapping each other, and by clamp-bolts *m m* passing through elongated holes in the one or both sections, the adjacent surfaces being serrated to prevent them from slipping. By lengthening or shortening the pitman I can adjust the movement of the several separators according to the nature or condition of the substance to be thrashed and cleaned.

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

1. In combination with a thrashing-cylinder, C, a longitudinal vibratory primary separating-rack, *a*, arranged to receive the delivery of the cylinder C, a secondary fine separating-rack, *a'*, arranged underneath the primary separator, to receive the grain, chaff, and fine straw, a tertiary separating-rack, a^2, arranged under the rear or delivery end of both the primary and secondary separating-racks, to receive therefrom the straw and chaff, and grain-tables *b* and *b'*, arranged respectively under the secondary and tertiary separating-racks, and the sieves or riddles R R, all arranged and operating substantially as described, for the purpose specified.

2. In combination with the crank-shaft *c*, the racks *a a'* a^2, rock-arm N, and the pitman P, formed with the adjusting-splice *n*, substantially as and for the purpose set forth.

3. The thrashing-cylinder C, formed with strips *s*, having teeth *t*, the slats *u*, removably inserted between the strips *s*, and set-screws *v*, as shown and described.

4. In combination with the cylinder C and its case D, the sliding gate G, the rack *r*, and the pinion *p*, arranged to operate as set forth and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 7th day of January, 1882.

RILEY H. COON. [L. S.]

Witnesses:
C. H. DUELL,
WM. C. RAYMOND.