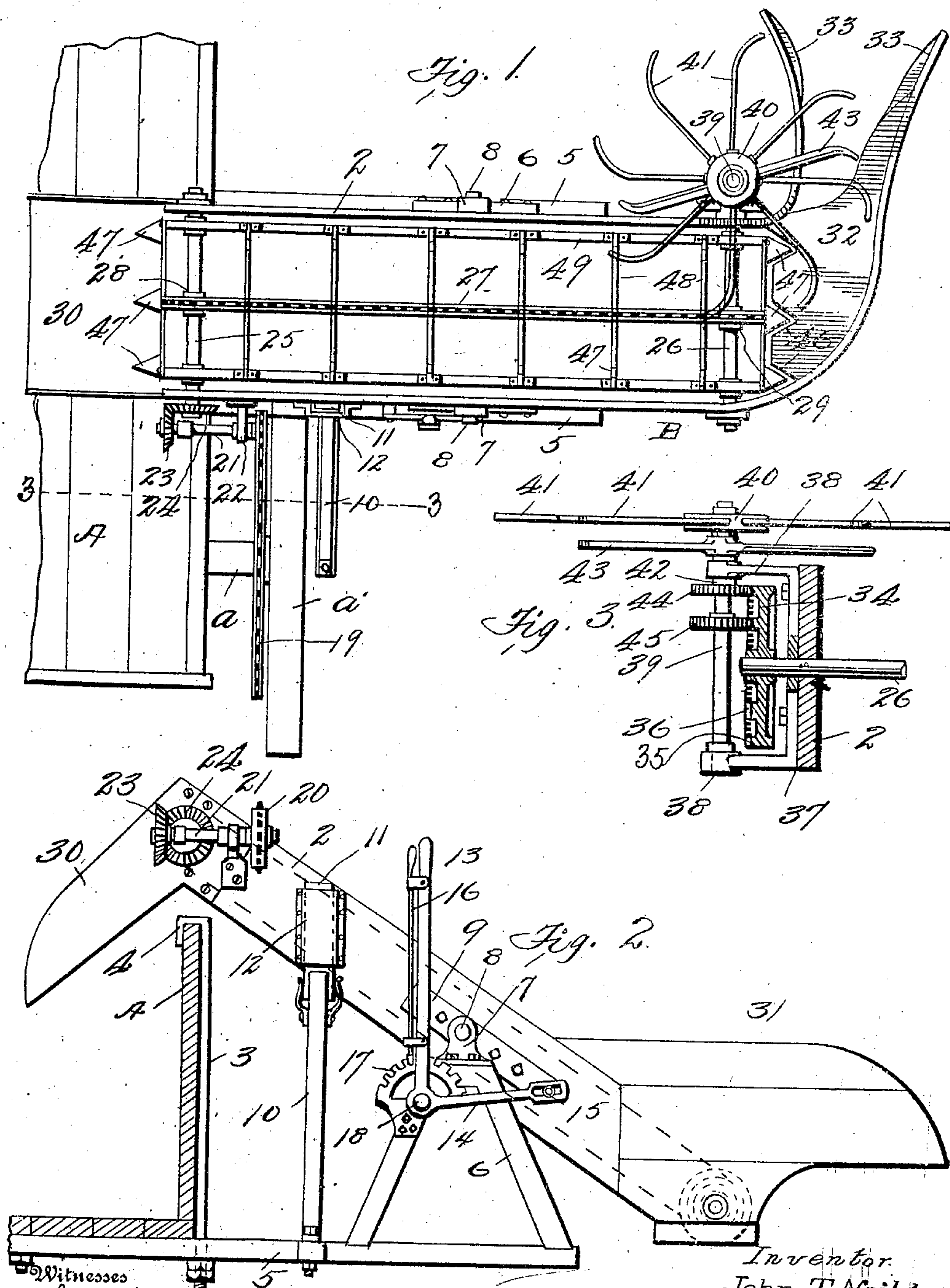


No. 879,666.

PATENTED FEB. 18, 1908.

J. T. NEILD.
MACHINE FOR CUTTING GRAIN.
APPLICATION FILED FEB. 9, 1907.



Witnesses
Chas. H. Davis,
John S. Davis

Inventor
John T. Neild,
Shepherd Davis
Attorneys

UNITED STATES PATENT OFFICE.

JOHN THOMAS NEILD, OF LEONARDVILLE, KANSAS.

MACHINE FOR CUTTING GRAIN.

No. 879,666.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed February 9, 1907. Serial No. 356,60.

To all whom it may concern:

Be it known that I, JOHN THOMAS NEILD, a citizen of the United States, residing at Leonardville, in the county of Riley and State of Kansas, have invented certain new and useful Improvements in Machines for Cutting Grain, of which the following is a specification.

This invention relates to new and useful improvements in machines for cutting grain from the stalks and it has particular reference to an apparatus designed for attachment to a wagon and including grain cutting mechanism and mechanism for transferring the cut grain to the said wagon.

The invention aims as a primary object to provide a device of the above type having a novel construction, combination, and arrangement of parts as embodied in the cutting and transferring mechanism.

The invention aims as a further object to provide a grain cutting machine which shall be simple in construction, inexpensive to manufacture, and practical and efficient in use.

The detailed construction will appear in the course of the following description in which reference is had to the accompanying drawings forming a part of this specification, like characters of reference designating similar parts throughout the several views, wherein,

Figure 1 is a top plan view of an apparatus constructed in accordance with my invention. Fig. 2 is a side elevation thereof, and Fig. 3 is a detailed fragmentary vertical section on the line 3—3 of Fig. 1.

Referring specifically to the accompanying drawings, the letter A designates a wagon for receiving the cut grain having the axle *a* and the traction wheel *a'*.

The letter B designates the apparatus forming the present invention, said apparatus comprising a supporting frame 1 and a trough or runway 2. The frame 1 comprises a hanger 3 having a hooked end 4 for engagement with the upper edge of the side of the wagon and at its lower end having connection with a laterally projecting horizontal arm 5. It should be here stated, that the frame 1 is constituted of the above mentioned parts arranged in parallelism, the arms 5 in this relation carrying at spaced points trestles 6, which at their upper ends have bearings 7 to receive the trunnions 8 carried by plates 9 secured to the sides of the

runway 2 at an approximately central point. One of the arms 5 carries an adjustably movable brace member 10 preferably of triangular shape, which at its upper end has detachable engagement with a block 11 designed for insertion through a strap 12 provided upon the adjacent side of the runway 2. Said runway is designed to be set at any selected pivotal adjustment on its trunnions. To this end an L shaped lever 13 is employed, which at the termination of its horizontal leg 14, has pivotal connection by means of a bolt and slot joint 15 with the adjacent side of the runway 2. The lever 13 carries a manually operated sliding pawl 16 for engagement with the teeth of a quadrant 17 arranged concentrically with relation to the pivot 18 of said lever.

The wheel *a'* is utilized to drive the movable elements of the apparatus and to this end carries a large sprocket wheel (not shown on the drawings), which through the medium of a chain 19 trained over a sprocket wheel 20, drives the shaft 21 upon which said sprocket wheel is carried. The shaft 21 is journaled in a bracket bearing 22 fixed to the side of the runway 2 and at its inner end carries a bevel pinion 23, which meshes with a similar pinion 24 carried upon the adjacent projecting end, of a shaft 25 journaled transversely in the walls of the runway 2 at the upper end thereof. Said runway at its lower end has a similar shaft 26 parallel to the shaft 25 and driven therefrom by a chain 27 trained over sprocket wheels 28 and 29 located centrally on said respective shafts. The runway 2 at its upper end is provided with a downwardly inclined discharge spout 30 projecting into the wagon A. At its lower end, said runway is formed on one side with a raised wall portion 31 and on the other side with an angularly extending horizontal shelf 32, the sides of said runway being flattened and edged, and projecting beyond said shelf 32 to afford stationary cutting knives 33. The shaft 26 projects beyond the side of the runway 2 adjacent said knives and carries at its end a wheel 34 having concentric crowned pinion faces 35 and 36. Said shaft projects through a bracket 37 fixed to the side of said runway and having parallel horizontal bearing arms 38 which constitute supports for a vertical shaft 39 carrying at its upper end a socket wheel 40 provided with radially extending curved gathering-in arms 41. Surrounding

the shaft 39 and likewise journaled in the upper bearing arm 38 is a sleeve 42 which carries at its upper end radial cutting knives 43. The sleeve 42 carries at its lower end a pinion 44 and the shaft 39 carries a pinion 45. The pinion faces 35 and 36 are designed to engage the respective pinions 44 and 45. The pinion face 35 is of greater circumference than the face 36, and assuming that the pinions 44 and 45 are co-extensive, the pinion 44 will be driven at a greater speed than the pinion 45. This is necessary in order that the cutting knives 43 may rotate at a speed greater than that of the cutting arms.

The shelf 32 is cut away at its rear portion as at 46 to permit of the passage thereby of conveyer fingers 47 provided upon slats or bars 48 carried transversely between belts 49 arranged at the sides of the runway 2 and trained over suitable pulleys (not shown), provided upon the ends of the shafts 25 and 26. The fingers 47 thus afford a positive means for conveying material through the runway 2, such material at the termination of the upward travel of the conveying mechanism, gravitating by way of the spout 30 into the wagon A.

The manner of use will be readily apparent from the foregoing description. As a wagon is moved over the field, the action of the movable parts will be continuous. The grain is cut from the stalks in rows. The knives 33 serve as guides to initially direct the grain towards the shelf 32. This action is facilitated by the gathering-in arms 41. The knives 43 then come into action and in their rapid rotation sever the grain from the stalk. The grain thus severed, as the wagon advances, is fed rearwardly upon the shelf 32 by the action of the arms 41 and also by the pressure of the grain subsequently and continuously delivered upon said shelf. In this action the enlarged wall portion 31 prevents the grain from being forced over the side of the runway. When the grain has been fed rearwardly a sufficient distance in the manner described, it is engaged by the fingers 47 and conveyed through the runway as will be readily understood.

While the elements herein shown and described are well adapted to serve the functions set forth, it is obvious that various minor changes may be made in the proportions, shape and arrangement of the several

parts without departing from the spirit and scope of the invention as defined in the appended claims.

Having fully described my invention I claim:

1. In a machine for cutting grain the combination with a wagon carrying a supporting frame at one side thereof, of a downward and outward runway pivotally mounted therein and having an angularly extending shelf at the lower end thereof terminating in a curved stationary cutting edge, rotating cutting knives mounted adjacent said shelf, transferring mechanism carried by said runway, and means for feeding the material from said cutters to said mechanism, substantially as described.

2. In a machine for cutting grain, a downward and outward inclined runway terminating at its lower end in an angularly extending shelf having a curved cutting edge, rotating cutting knives mounted adjacent said shelf, transferring mechanism carried by said runway, and rotating gathering arms mounted concentric with said cutting knives and arranged to feed the material from said cutters to said runway, substantially as described.

3. In a machine for cutting grain, a downward and outward inclined runway terminating at its lower end in an angularly extending shelf having a curved cutting edge rotating cutting knives mounted adjacent said shelf, transferring mechanism carried by said runway, rotating gathering arms mounted concentric with said cutting knives, and mechanism for driving said cutting knives at a relatively greater speed than said gathering arms, substantially as described.

4. In a machine for cutting grain, the combination with a wagon carrying a supporting frame, of a runway pivotally mounted in said frame, cutting and transferring mechanism carried by said runway, and a lever pivotally mounted in said frame and having a sliding connection with said runway adjacent its pivot for adjusting the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN THOMAS NEILD.

Witnesses:

GODFREY LAGERQUIST,
CHAS. F. SCHRIEBER.