

No. 719,825.

PATENTED FEB. 3, 1903.

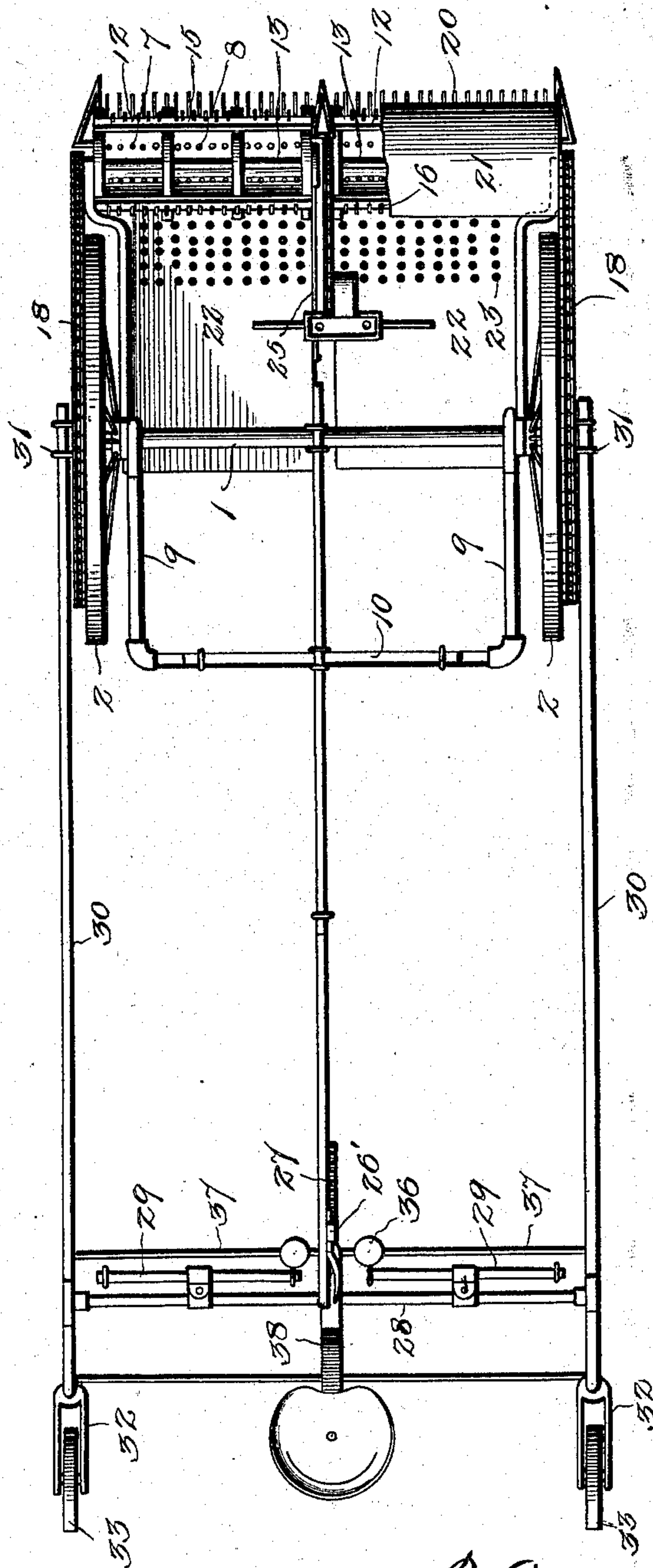
W. MALONEY.  
GRAIN THRESHING MACHINE.

APPLICATION FILED DEC. 23, 1896.

NO MODEL.

3 SHEETS—SHEET 1.

*Fig. 1.*



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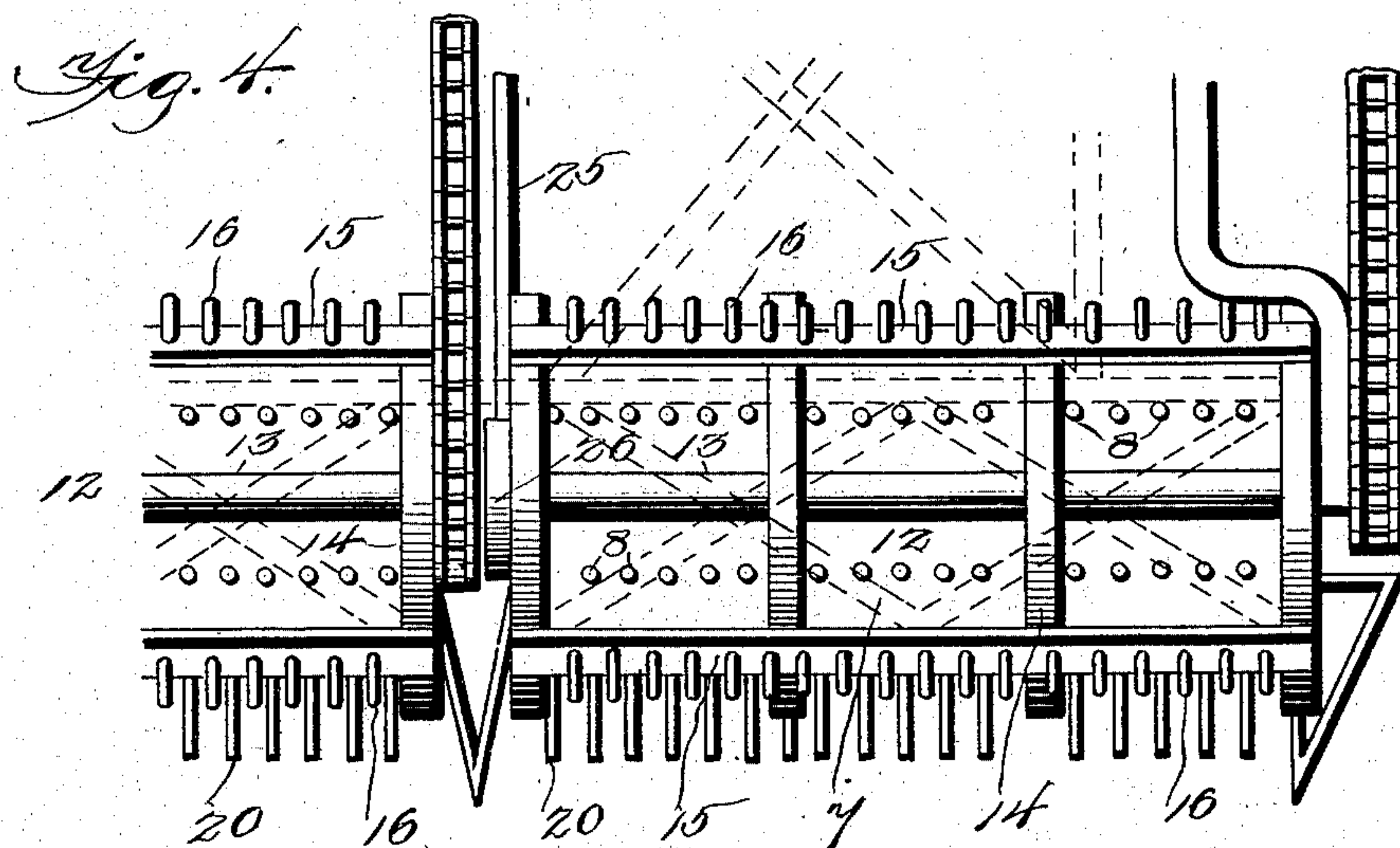
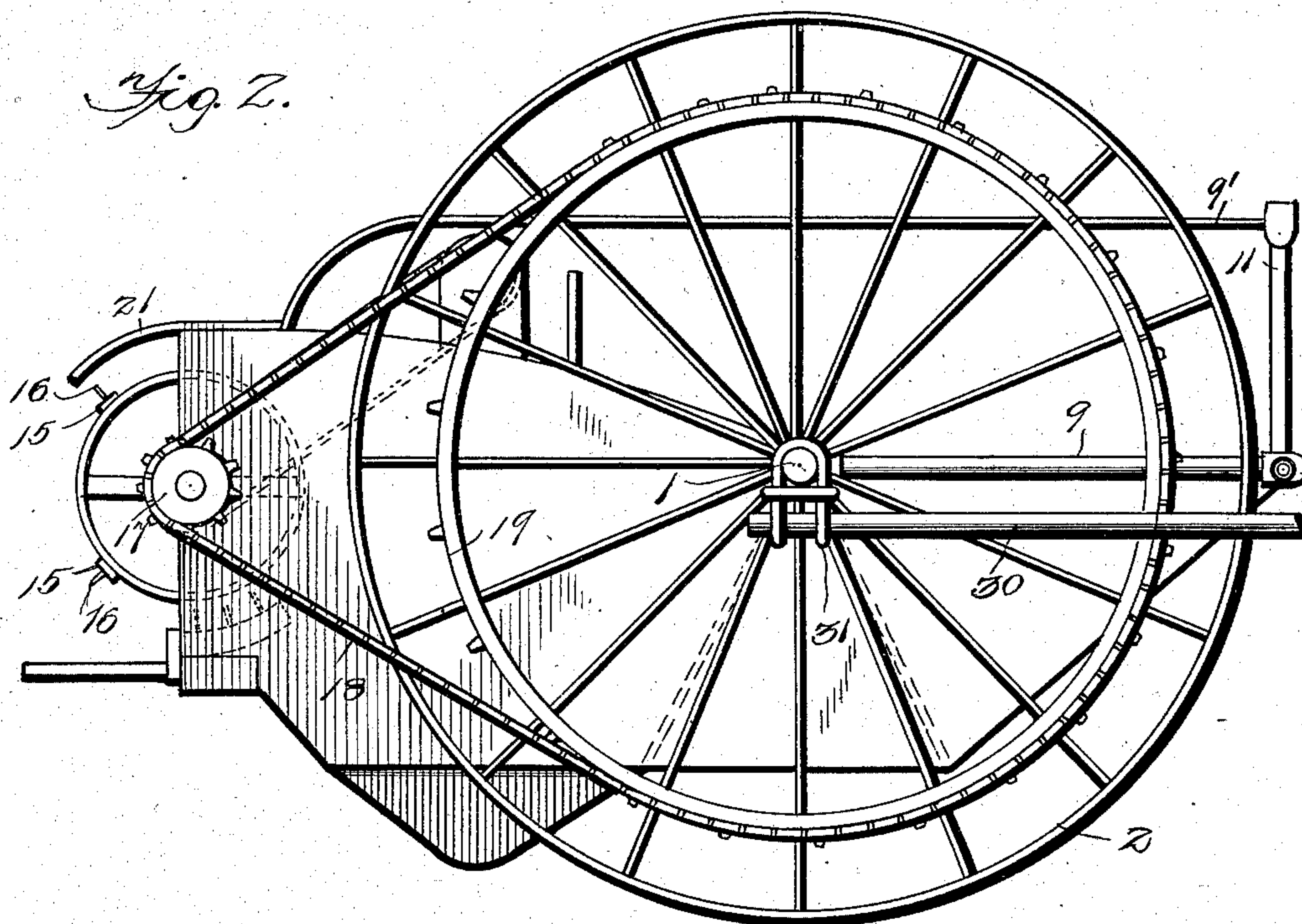
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NO MODEL.

3 SHEETS—SHEET 2.



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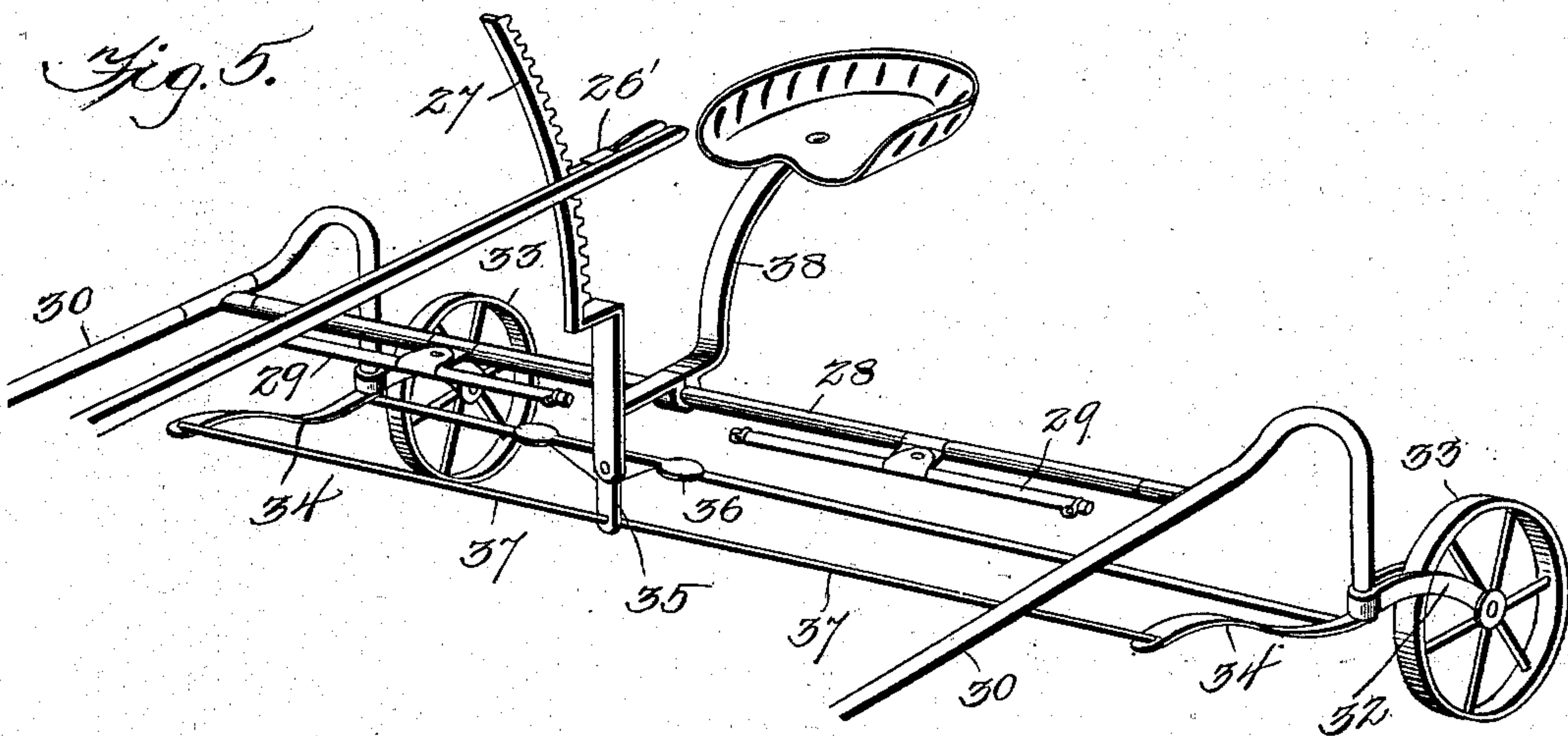
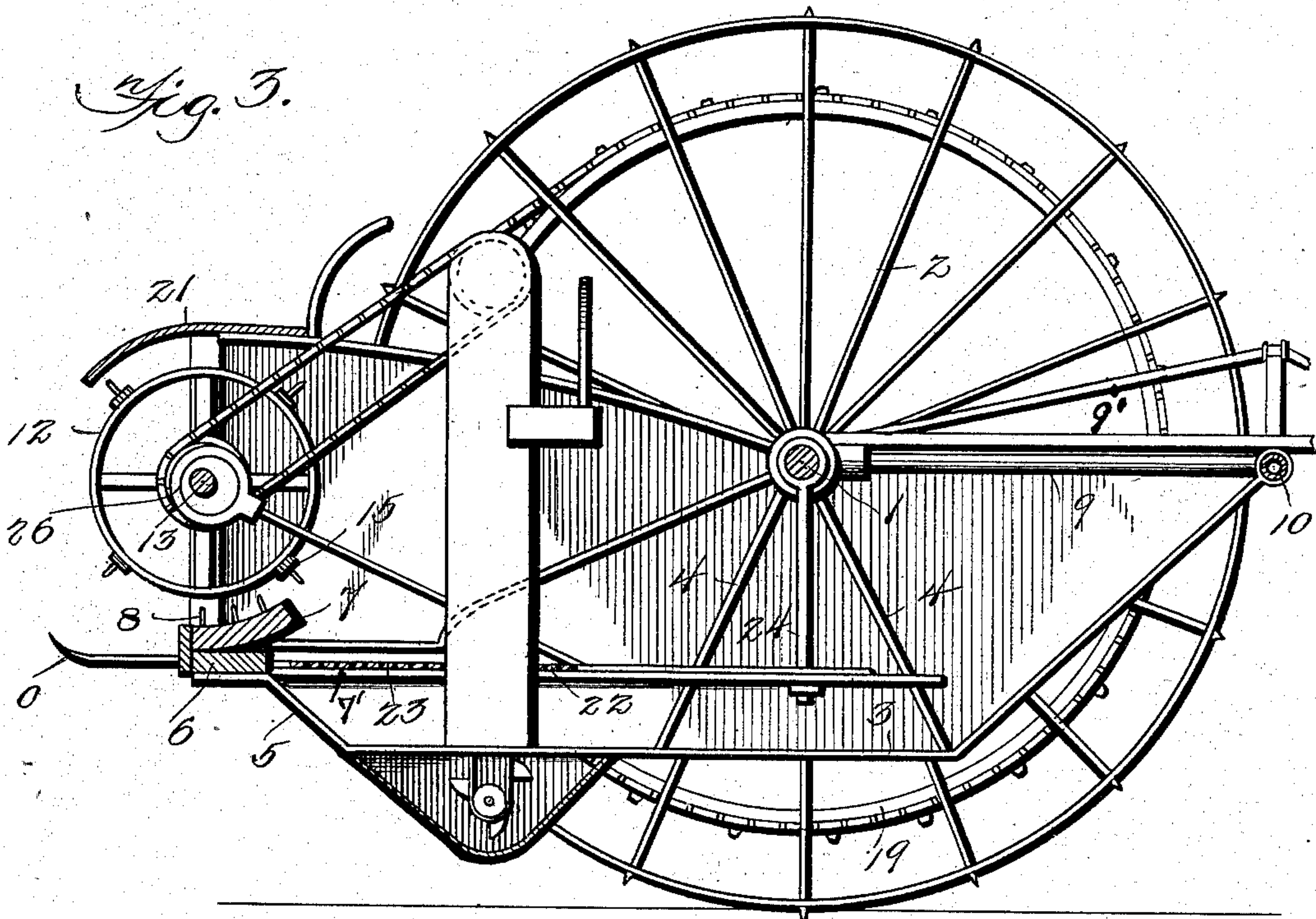
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NO MODEL.

3 SHEETS—SHEET 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## GRAIN-THRESHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 719,825, dated February 3, 1903.

Application filed December 23, 1896. Serial No. 616,807. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM MALONEY, rancher, of the city of Calgary, in the district of Alberta, in the North-West Territories, Dominion of Canada, have invented a new and useful Grain-Thresher; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to improvements in grain-harvesters, and has particular reference to devices of this character in which the grain is threshed.

The object of my invention is to provide a mechanism by means of which the grain may be threshed while standing in the field, the cereals being removed and the straw left standing.

A further object is to provide a construction of this character in which the grain and chaff are separated during the threshing operation.

Other and further objects will be apparent as the invention is hereinafter described and claimed.

The invention therefore consists in the improved construction and combination of parts arranged for carrying into effect the objects set forth, which constructions are specifically referred to in the claims hereto appended.

In the drawings, in which similar reference characters indicate similar parts throughout the several views, Figure 1 is a plan view of a mechanism constructed in accordance with my invention. Fig. 2 is a side elevation of the front portion thereof. Fig. 3 is a vertical longitudinal sectional view of the front portion of the mechanism. Fig. 4 is an enlarged plan view of a portion of the front of the mechanism. Fig. 5 is a perspective view of the rear end of the mechanism.

In the drawings, 1 designates the axle, mounted in the supporting-wheels 2 2, the latter being of suitable form to support the mechanism and at the same time insure a proper driving of the operating mechanism supported on the axle, as presently described.

3 designates a frame which is supported upon the axle 1 by means of supports 4 4, said frame consisting of bars extending forwardly

and rearwardly from a point below the axle, the front portion of said frame being bent up, as at 5, the front end forming a support for a bar or plate 6, extending across the front of the frame. The plate 6 forms the support for the concave 7, extending across the mechanism above said plate and provided with the usual spikes 8, the face of the concave corresponding in contour with the contour of the threshing-cylinder presently described. The frame 3 is also supported and strengthened by rearwardly-extending bars 9, the front ends of which are mounted on the axle 1, the rear ends being connected to a cross-bar 10 in rear of the axle. Extending vertically from said cross-bar 10 are suitable standards 11, to which are connected forwardly-extending bars 9', the front ends of which are connected to the upper ends of suitable supports or standards located at the front, said forwardly-extending bars 11 being located above the axle 1, as shown in Fig. 2. By this construction I provide a skeleton frame which is supported entirely on the axle, and therefore capable of a pivotal movement therewith in the wheels 2 2 in an obvious manner. This skeleton frame may have the forwardly-extending bars 9', which may extend horizontally, as seen in Fig. 2, or inclinedly, as seen in Fig. 3.

12 12 designate threshing-cylinders located on opposite sides of the longitudinal center of the mechanism, each of said cylinders comprising a shaft 13, mounted in suitable bearings, said shafts having spaced wheels 14, to the peripheries of which are secured in any suitable manner spaced bars 15, extending across the cylinders, (longitudinally thereof,) each of said bars having suitable spikes 16, adapted to cooperate with the spikes 7 in a manner similar to the general type of threshing mechanism. Each of said shafts is provided at its outer end with a sprocket-wheel 17, which is driven by the sprocket-chain 18 from the large sprocket-wheels 19, carried by the wheels 2 and having movement therewith. Two cylinders are provided in order that the necessary freedom of movement may be had when the mechanism is being moved in a direction other than in a substantially straight



line, the movement of the cylinder corresponding with the movement of the wheel 2, to which it is connected.

It will be readily understood that as the mechanism is driven forward a rapid movement of the cylinders will be obtained, due to the relative sizes of the sprocket-wheels 17 and 19, and this movement of the cylinder serves as the harvester is driven over the field, the height of the front portion thereof being regulated, as hereinafter described, to carry the heads of the grain-stalk into a position where the cooperating spikes will thresh the grain from the head, the front of the harvester being provided with suitable teeth 20 for directing the stalks in the proper direction. A cover 21 is located over the cylinder to prevent the "splashing" of the grain during such threshing operation, while the sides are inclosed to prevent such splashing laterally.

As the grain-heads are being threshed there will be taken therefrom both grain and chaff, and in order to separate them I place in rear of and on a plane below the concave 7 suitable sieve constructions, each of which is mounted in or on suitable guides 7', extending rearwardly, said sieves 22 having their forward portions provided with openings through which the grain passes. The rear portions of these sieves, of which there are two, as seen in Fig. 1, are preferably supported from the axle 1 by suitable hangers 24, as shown in Fig. 3, a reciprocating or oscillating movement being given to said sieves through the medium of rods connected with and moved by eccentrics 26, mounted on the shaft 13, said rods 25 being secured one to each of the said sieves in suitable manner. The guides 7' are merely strips or other devices on which the sieves may be suitably supported.

As the grain and chaff are carried rearward from the concave they pass onto the upper surface of the sieves 22, whereupon the oscillating movement thereof will move the grain and chaff about the surface of the sieves, the grain finding a passage-way through the holes 23 and into a suitable receptacle, from which it is taken by an endless-belt construction driven from the shafts 13, suitable means being provided to enable a ready bagging of the grain as it is delivered by the buckets. The chaff being light in weight passes rearwardly over the sieves 22 and passing over the rear thereof in an obvious manner.

As heretofore pointed out, the frame 3 and the remaining parts carried on the axle 1 have a pivotal movement with the axle. This movement enables the front portion of the machine to be adjustably regulated to correspond with the average height of the grain-heads, the height of the concave being kept at about the same distance relative to the heads, regardless of the height of the grain in the field. This adjustable movement is obtained through the rearwardly-extending lever 25.

As shown, this lever has its front end mounted on the axle by suitable means extending rearwardly therefrom and having a fixed connection with the cross-bar 10, said lever being braced by suitable braces secured to the cross-bar 10 and the lever. The rear end of said lever is provided with a suitable pawl 26', adapted to engage with the toothed segment 27, as shown in Fig. 5. By this construction the entire threshing mechanism may be given a pivotal movement on the axle by moving the said lever lengthwise of the machine and be adjustably held in position by the engagement of the pawl and the segment.

The threshing mechanism is driven from the rear, at which point it is also guided, and the mechanism for guiding and the connections between that part of the machine and the front portion will now be described.

28 designates a cross-rod, (reference being more particularly had to Fig. 5,) to which are connected the whiffletrees 29, to which the draft-animals are attached. To the ends of the cross-bar 28 are secured forwardly-extending bars 30, the front ends of which are provided with suitable loops 31, which are adapted to be hung onto the axle, being secured thereon removably in any suitable manner. The rear ends of said bars 30 are carried beyond the cross-bar 28 and are bent downwardly, being adapted to receive a yoke 32, carrying the guiding or caster wheel 33, said yoke having a pivotal mounting. Each of the yokes 32 is provided with a forwardly-extending arm 34, said arms being connected to an arm 35, extending downwardly from a foot-lever 36, by means of connecting-rods 37, the foot-lever having a pivotal mounting on the lower end of the segment 27, the latter being secured to an arm extending forwardly from the cross-bar 28, which arm may, if desired, form a part of the seat-support 38.

It will be readily seen that the entire steering or guiding mechanism may be disconnected from the threshing mechanism by the simple removal of the loops 31 or the disconnecting of the bars 30 from said loops. This enables the draft-animals to be placed in position readily and in addition enables the machine to be stored away within a smaller space.

As will be readily understood, the driver by a simple manipulation of the foot-lever 36 causes the wheels 33 to receive a simultaneous movement in the same direction, thus permitting the threshing-machine to turn and be guided.

Having thus described my invention, what I claim as new is—

1. In a portable threshing-machine, the combination with a threshing-cylinder and concave; of a series of guides mounted below and in juxtaposition to said concave; a series of sieves mounted on said guides and supported loosely from the main axle; and means for imparting a reciprocating movement to said sieves.



2. In a threshing-machine, the combination with a threshing-cylinder and concave; of a series of sieves supported loosely from the main axle, guides on which said sieves are mounted, said sieves being adapted to receive the grain from said concave; a grain-receptacle located below said sieves, and means for imparting a reciprocating movement to said sieves.
- 10 3. In a threshing-machine, a separating device formed of sieves supported by the frame below and in rear of the concave, the support consisting of guides placed directly below the concave and extending in a rearward direction, rods connected to the rear of the sieves 15 and pivotally mounted on the main axle, and shaking-rods having a connection with the threshing-cylinder in a manner to impart a reciprocating movement to said sieves.

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Witnesses:

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