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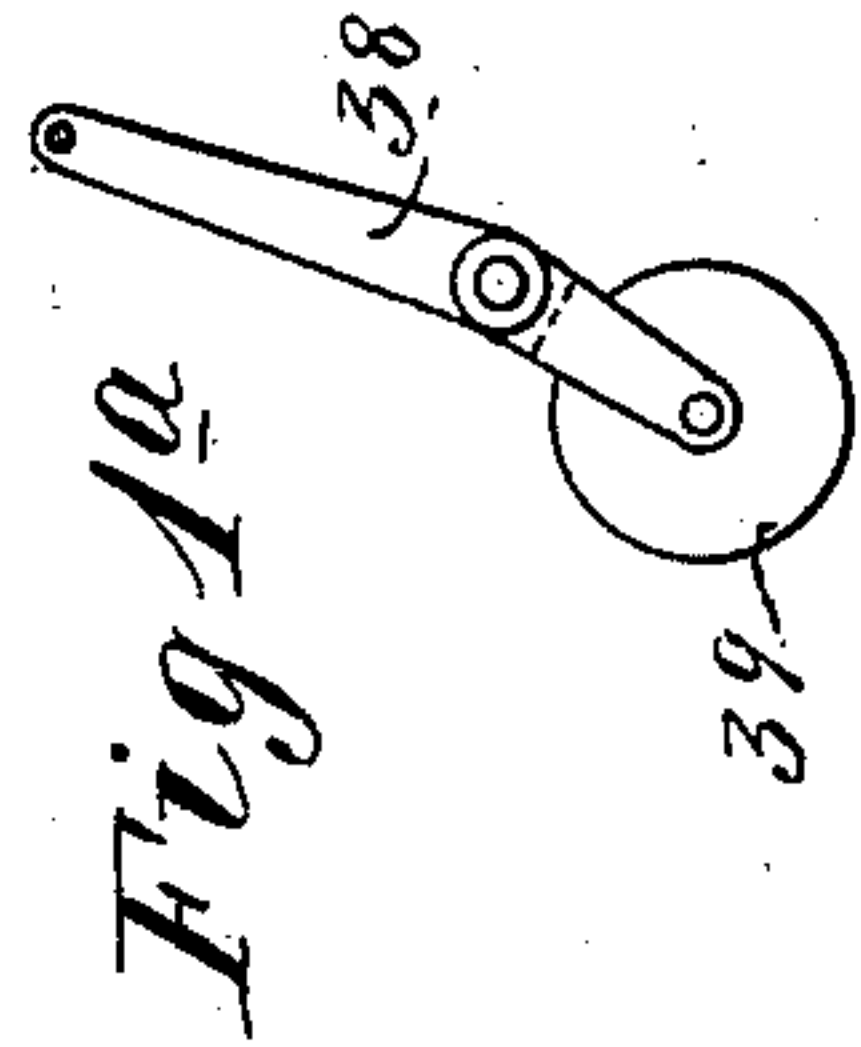
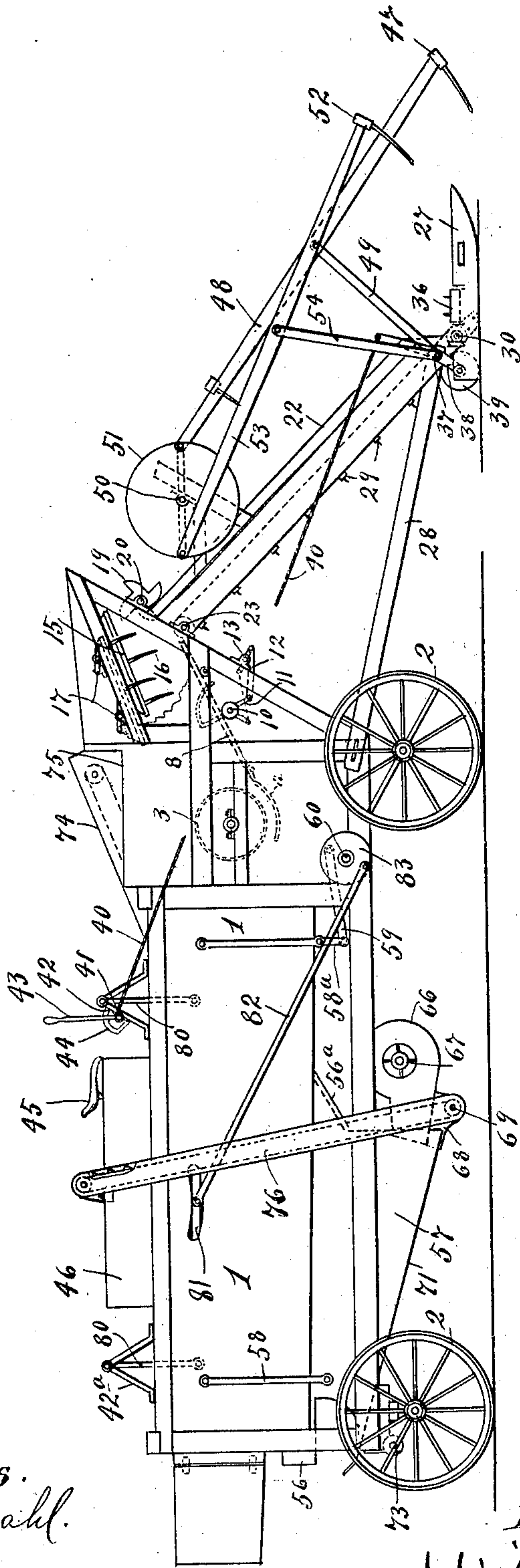
PATENTED SEPT. 1, 1903.

M. ERECKSON.
TRAVELING THRESHER.
APPLICATION FILED APR. 5, 1902.

NO MODEL.

5 SHEETS—SHEET 1.

Fig. 1.



Witnesses.
a. H. Opsahl.
H. D. Kellogg

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Martin Erickson.
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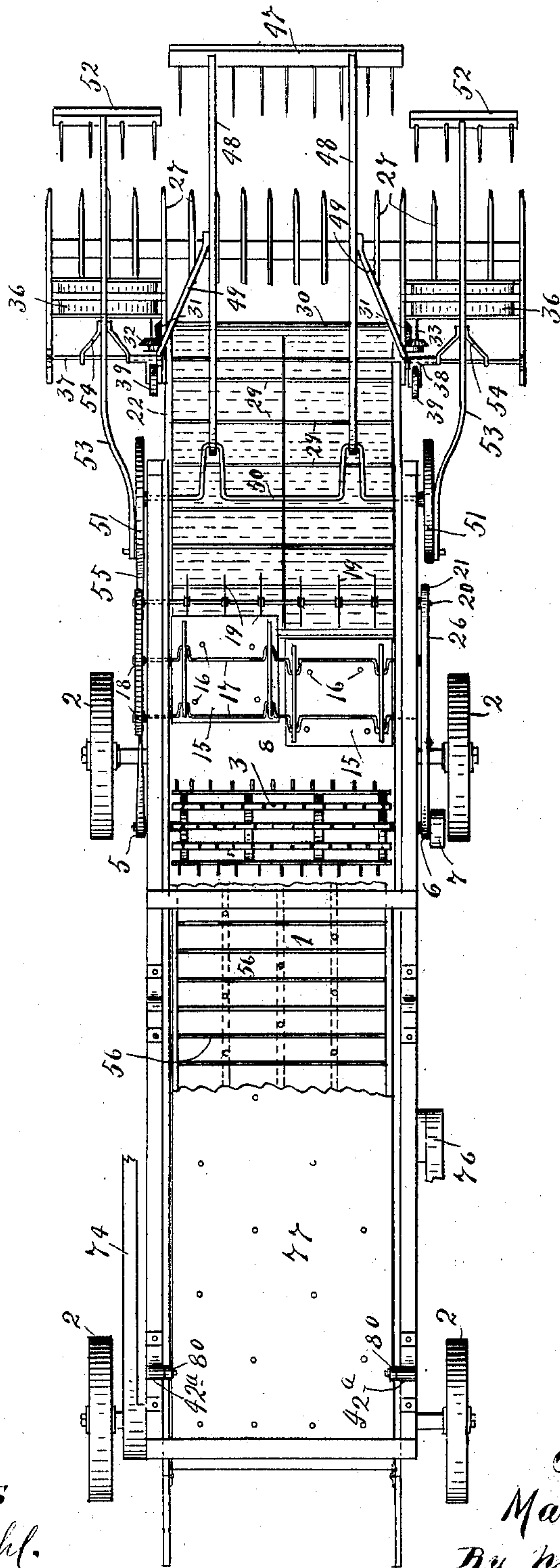
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5 SHEETS—SHEET 2.

Fig. 2.



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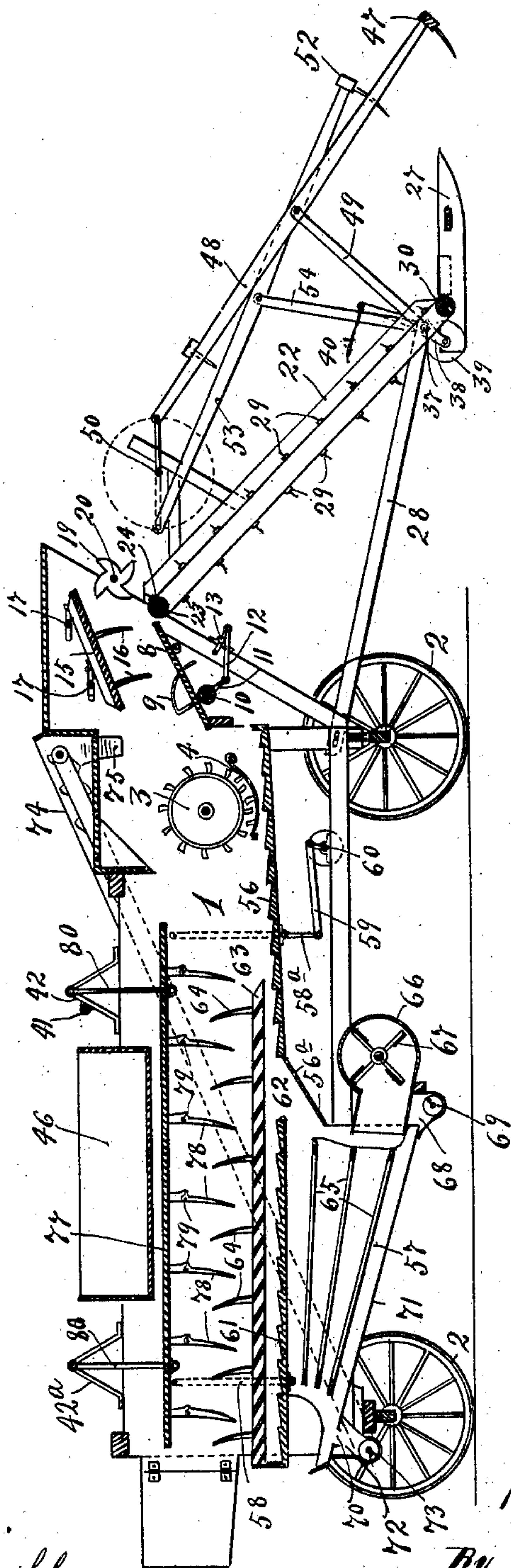
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5 SHEETS—SHEET 3.

Fig. 3.



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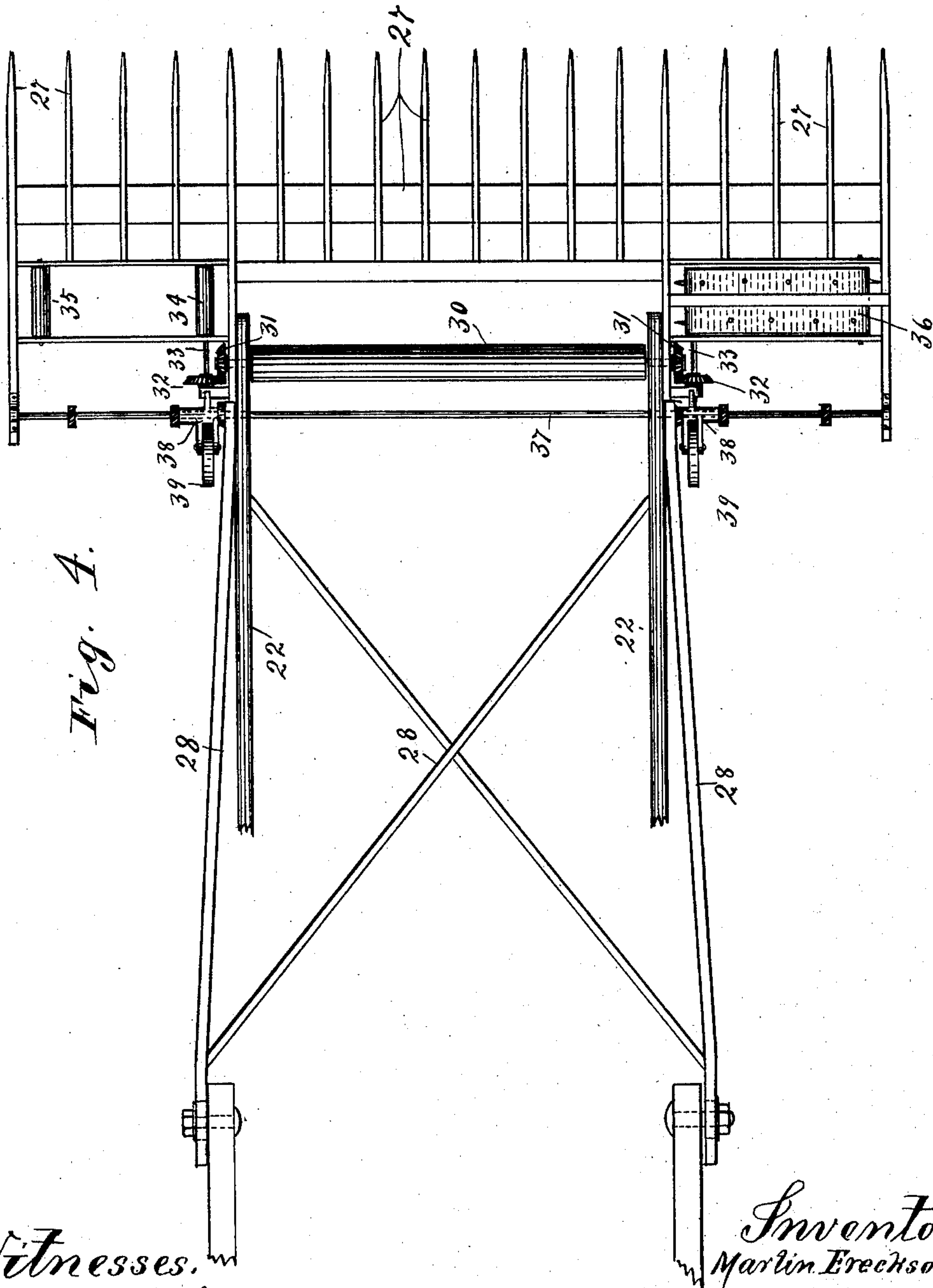
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5 SHEETS—SHEET 4.



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5 SHEETS—SHEET 5.

Fig. 5.

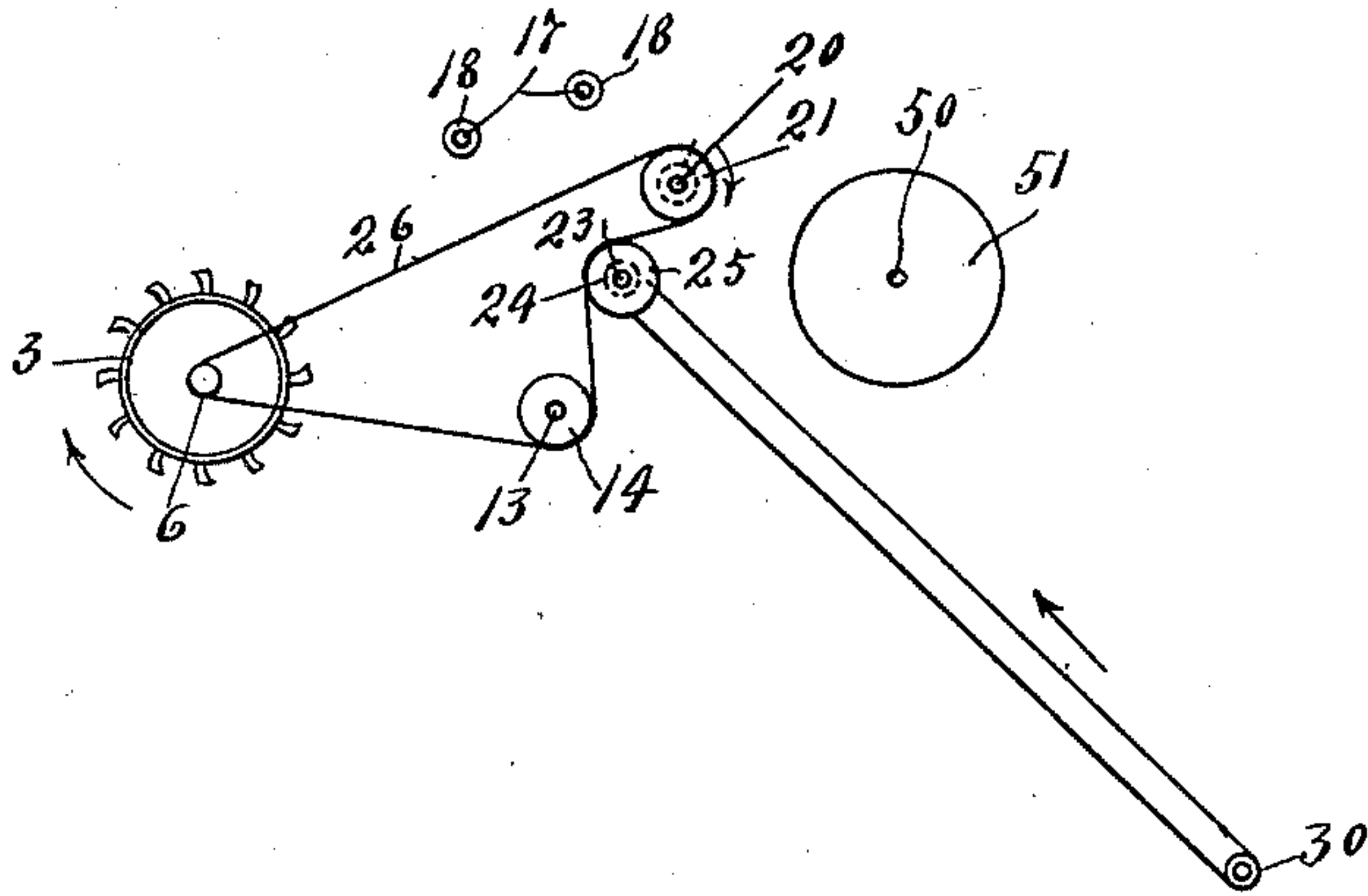
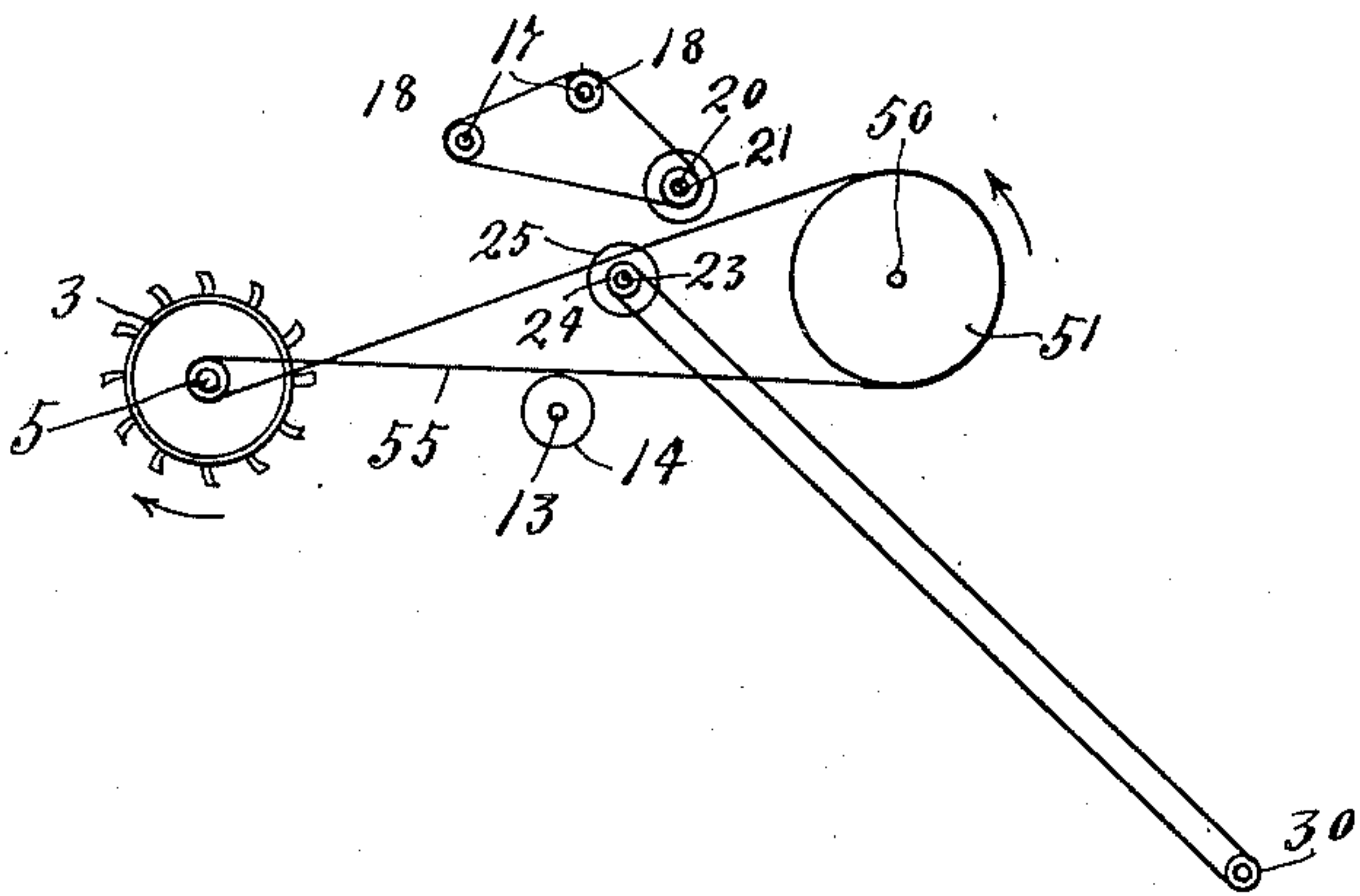


Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

MARTIN ERECKSON, OF GALESBURG, NORTH DAKOTA.

TRAVELING THRESHER.

SPECIFICATION forming part of Letters Patent No. 737,598, dated September 1, 1903.

Application filed April 5, 1902. Serial No. 101,454. (No model.)

To all whom it may concern:

Be it known that I, MARTIN ERECKSON, a citizen of the United States, residing at Galesburg, in the county of Traill and State of North Dakota, have invented certain new and useful Improvements in Traveling Threshers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved traveling thresher; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views. Figure 1 is a view in side elevation with some parts broken away, showing a threshing-machine embodying the several features of my invention. Fig. 1^a is a detail in side elevation of one of the shoe-lifting levers. Fig. 2 is a plan view of the complete machine, some parts being broken away. Fig. 3 is a vertical longitudinal section taken through the complete machine at approximately the center thereof. Fig. 4 is an enlarged plan view showing the so-called "gathering-shoe" and associated parts, and Figs. 5 and 6 are diagrammatic views illustrating certain of the driving connections.

The numeral 1 indicates as an entirety the case of the machine, which is shown as supported in the ordinary way by wheels 2. The threshing-cylinder 3 and cooperating concave 4 are, as is usual, mounted in the forward hooded portion of the case 1. The shaft of the cylinder 3 is provided at one end with a small pulley 5 and at its other end with a small pulley 6 and with a larger pulley 7, over the latter of which a suitable power-driven belt (not shown) would be run to impart motion to the cylinder.

The grain is fed to the cylinder and concave over an inclined deck 8, through which works a plurality of kickers 9, carried by a counter-shaft 10, suitably mounted in the sides of the machine-case and provided with an arm 11, connected by a link 12 to the crank of a crank-shaft 13, which is also suitably mounted in

the sides of the frame or case 1. At one end the crank-shaft 13 is provided with a pulley 14. (Shown in diagram in Figs. 5 and 6 and in plan in Fig. 2.)

A pair of reversely-acting tedder-boards 15, having depending teeth 16, work immediately over the feed-deck 8. These tedder-boards are carried by a pair of parallel crank-shafts 17, suitably mounted in the sides of the case 1 and provided at their right-hand ends, in line with each other, with pulleys 18. (Shown in diagram in Figs. 5 and 6 and in plan in Fig. 2.) The band-cutters 19 are carried by a shaft 20, suitably mounted in the sides of the case 1 and provided at its left-hand end with a pulley 21 in line with the pulley 14 of the shaft 13.

A supplemental inclined frame 22 is pivoted to the front of the case 1 on a shaft 23, which shaft is provided with a roller 24, extending between the sides of the case, and is provided on its left-hand end with a pulley 25. A belt 26 runs over the pulleys 6, 14, 21, and 25 and imparts motion thereto in the direction indicated by the arrow marked on Fig. 5. The free lower end of the supplemental frame 22 is by suitable bolts secured to the projecting bars of a toothed shoe 27. Push-bars 28 connect the lower portion of the frame 22 to the forward end of the machine-frame. An endless slat and belt conveyer 29, ordinarily termed a "canvas," runs over the roller 24 at the upper end of the supplemental frame 22 and over a similar roller 30, the shaft of which is suitably mounted in the lower end of said frame 22 and is provided at its ends with bevel-pinions 31. The pinions 31 mesh with similar pinions 32, carried by short shafts 33, suitably journaled in the shoe 27 longitudinally of the machine and provided with rollers 34, which cooperate with idle rollers 35, loosely journaled in the said shoe. Toothed canvases or endless conveying-belts 36 run over the cooperating pairs of rollers 34 35 together and carry inward any grain which may be caught by the shoe outward of the sides of the supplemental frame 22.

The numeral 37 indicates a long transverse shaft or rod which is passed through the lower end of the supplemental frame 22 and through the rearwardly-projecting end teeth of the shoe 27. On this shaft 37, just outward of the

sides of the frame 22, is loosely journaled a pair of bell-cranks 38, equipped at their lower ends with ground-engaging rollers 39. The upper arms of the bell-cranks 38 are connected by ropes 40 to a windlass-shaft 41, mounted in a bracket 42 on the top of the case 1 and adapted to be held where set by a cooperating hand-roller 43 and latch-segment 44. The numeral 45 indicates the rider's seat, which, as shown in Fig. 1, is supported from a grain-receptacle or storage-tank 46, also carried at the top of said case. Several reciprocating rakes work with a tedder-like action over and just forward of the shoe 27. The largest of these rakes (indicated by the numeral 47) works over the intermediate portion of the shoe and has two rearwardly-projecting arms 48, which are pivoted at their intermediate portions to the free upper ends of a pair of oscillating links 49, which at their lower ends are pivoted to the sides of the supplemental frame 22 by means of the shaft or rod 37. At their upper and inner ends said arms 48 are carried by the cranks of a transversely-extended crank-shaft 50, suitably mounted in the sides of the frame 22 and provided at its projecting ends with crank-disks 51. The side rakes 52 work in line with the gathering-conveyers 36 and are provided with single arms 53, the intermediate portions of which are pivotally supported from the ends of the shaft 37 by oscillating links 54, while their rear ends are eccentrically pivoted one to each of the crank-disks 51.

A twisted belt 55 runs over the pulley 5 on the right-hand end of the shaft of the cylinder 3 and over the right-hand member of the disks 51, which disk therefore serves as a pulley to impart motion from the threshing-cylinder to the crank-shaft 50, and hence, of course, to the rakes 47 and 52.

This machine is adapted to be moved while its threshing mechanism is in operation, and power for this purpose may be furnished in any one of many different ways. The machine may be pushed ahead and driven by a traction-engine, or it may carry its own motive power. For instance, it might be equipped with a suitable storage battery and motor. In all cases, however, it will be moved over the ground from one shock of grain to another. When the toothed shoe 27 and the reciprocating rakes 47 and 52 are advanced onto a shock of grain, the bundles will be taken up by the said rakes and thrown onto the endless conveyer 29, by which they will be carried upward and passed by band-cutters 20, where the band will be cut. The loosened grain will then be fed to the cylinder 3 under the cooperating action of the kickers 9 and toothed tedder-boards 15. The threshed grain will fall onto a serrated feed-table 56, which is carried by and forms a part of a vibrating shoe 57, supported from the sides of the case 1 by links 58. The forward links 58 have depending arms 58^a, which are connected by

links 59 to a rotary crank-shaft 60, suitably mounted on the sides of the machine-frame and driven in any suitable way. The shoe 57 has a serrated feed-board 61, which is spaced apart from the feed-board 56, so as to form a throat-opening 62. Under vibrating movements of the shoe 57 the serrated feed-boards 56 and 61 tend to work the grain caught thereby in reverse directions—to-wit, toward the throat 62. Secured to the shoe 57, overlying the feed-board 62 and the lower end of the feed-board 56, is a grate 63, which is provided with upwardly-projecting teeth 64. The shoe 57, as is usual, carries a plurality of overlying screens 65. A fan 66, provided with a case 67, is arranged to deliver a blast of air between the screens 65. An inclined extension 56^a of the feed-board 56 delivers the grain caught thereby in front of the mouth or outlet of the fan-case 67 and from thence into a catch-trough 68, in which works a spiral feed-screw 69. The screens 65 also incline rearward, so as to deliver the clear grain caught thereby back into the catch-trough 68. The tailings will be blown by the fan over the screens 65 and cause the same to fall through an opening 70 in an imperforate feed-board 71. The tailings falling through the opening 70 will be caught by a spout or trough 72, in which works a spiral conveyer 73. The spiral conveyer 73 delivers the tailings to an elevating-conveyer 74, by means of which they are delivered through a spout 75 back into the separator in front of the threshing-cylinder and concave. The clear grain, which ultimately reaches the trough 68, is by the spiral conveyer 69 carried to an elevating-conveyer 76, by means of which it is delivered into the receptacle 46 on the top of the case 1.

To feed the straw rearward and to assist in rattling loose any grain which may be carried by the straw onto the grate 63, I provide an oscillating overhead feed-board 77, having depending teeth 78. The teeth 78 are jointed at 79, so that they are free to swing rearward or toward the delivery end of the separator, but act as rigid teeth when moved toward the receiving end of the machine. The oscillating feed-board 77, supported by links 80, the forward members of which are shown as pivoted to the brackets 42, heretofore noted, and the rear members of which are pivoted to similar brackets 42^a, also secured to the top of the case 1. The oscillating feed-board 77 is provided with a projecting wrist-pin, which works through a slot 81 in one side of the case 1 and is connected to one end of a long pitman 82, the other end of which is eccentrically connected to a crank-disk 83, carried by the crank-shaft 60, heretofore noted.

A machine of the above character is especially adapted to work as a traveling thresher. It is adapted to thresh grain while on the move. It may, however, be moved from shock to shock and allowed to stand temporarily in

the vicinity of the shock while it is picking up the bundles and feeding the same to the separating mechanism.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with traveling threshing mechanisms, of an elevator involving a frame and an endless elevating-apron, said frame being pivoted to the frame of said threshing mechanism, a ground-engaging shoe or part at the free end of said frame, and reciprocating gathering-rakes working over the ground and cooperating with said endless apron to pick up the bundles, substantially as described.

2. The combination with threshing mechanism and a band-cutter, of an endless elevator or conveyer, a gathering-shoe at the receiving end of said elevator projecting laterally or beyond the sides of said elevator and working on the ground, transversely-moving gathering-conveyers in the projecting ends of said shoe, and alternately reciprocating gathering-rakes working over said shoe and cooperating therewith and with said

elevator, and gathering-conveyers for picking up the bundles and deliver the same to said band-cutter and threshing mechanism, substantially as described.

3. The combination with threshing mechanism and a band-cutter of an inclined endless conveyer, the toothed gathering-shoe working on the ground at the receiving end of said elevator and projecting beyond the sides thereof, the endless gathering-conveyers mounted in the projecting ends of said shoe, the crank-shaft 50 having the crank-disk 51, the vibrating rake 47 having the arms 48 supported by links 49 and pivoted to the cranks of said shaft 50, and the gathering-rakes 52 having the arms 53 supported by links 54 and pivoted to said crank-disks 51, said parts operating substantially as described.

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

MARTIN ERECKSON.

Witnesses:

M. J. MOE,

M. P. SISVOLD.