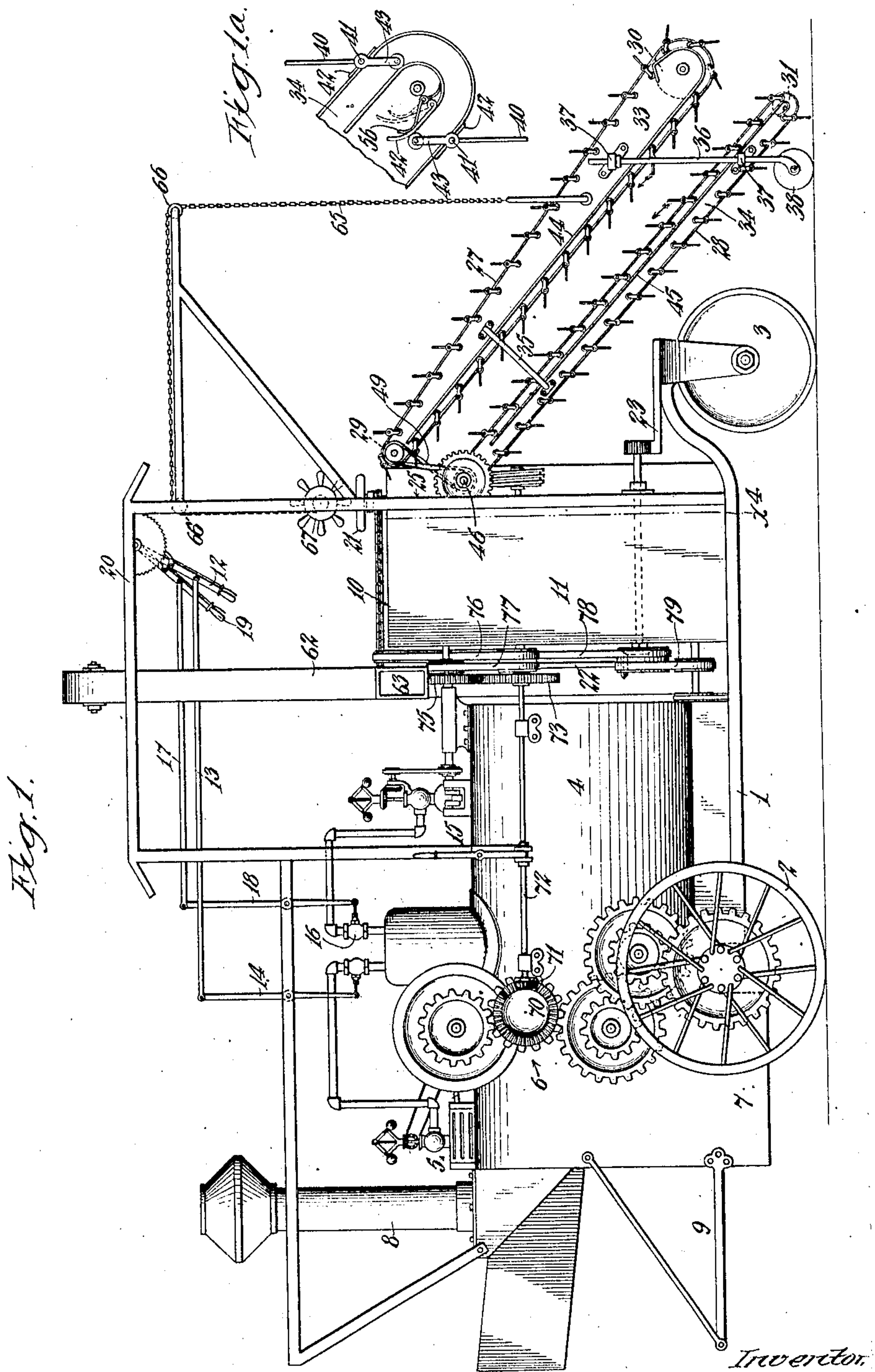


925,967.

G. O. WALTERS.
TRAVELING THRESHER.
APPLICATION FILED JUNE 22, 1907.

Patented June 22, 1909.

3 SHEETS—SHEET 1.



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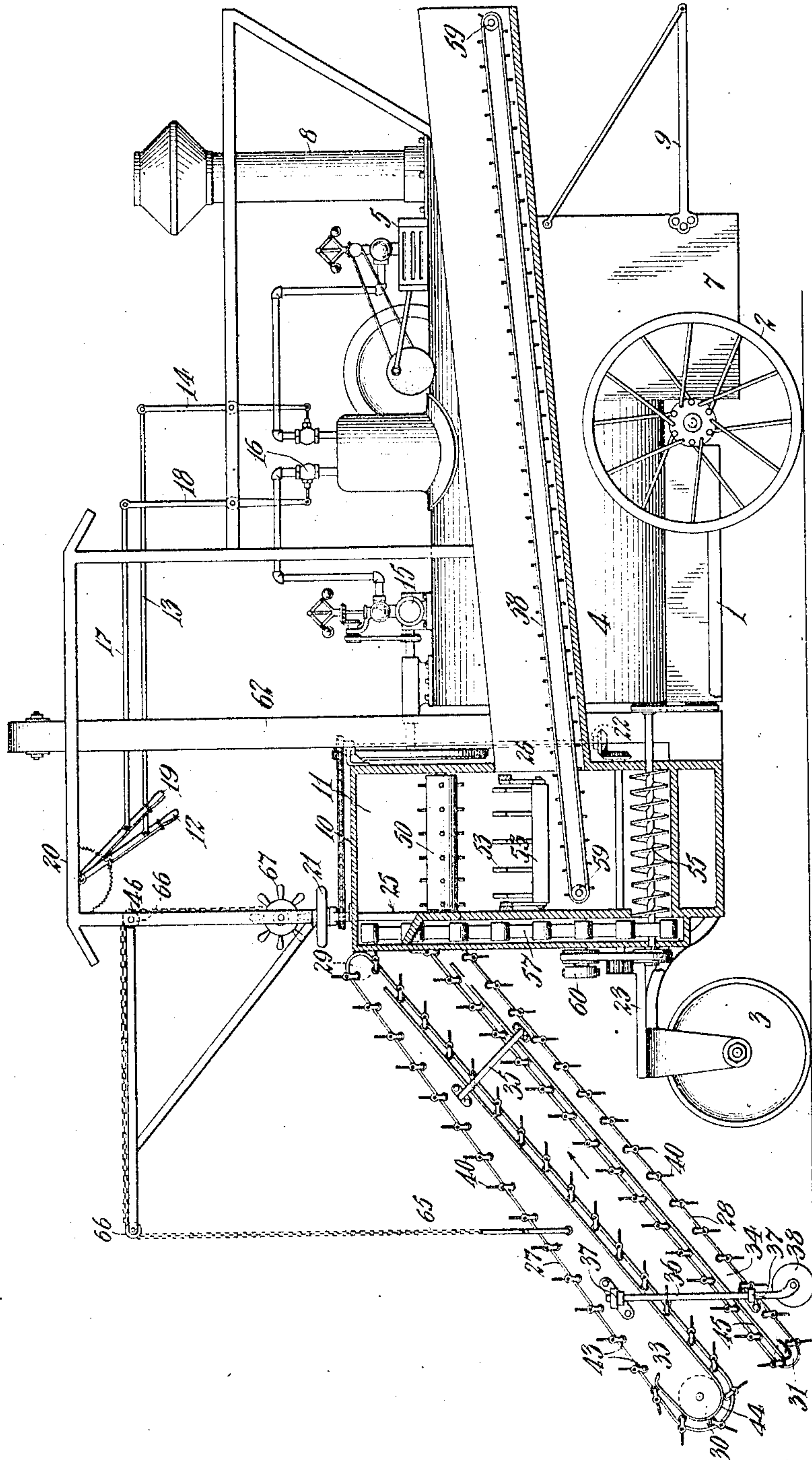
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Fig. 2.



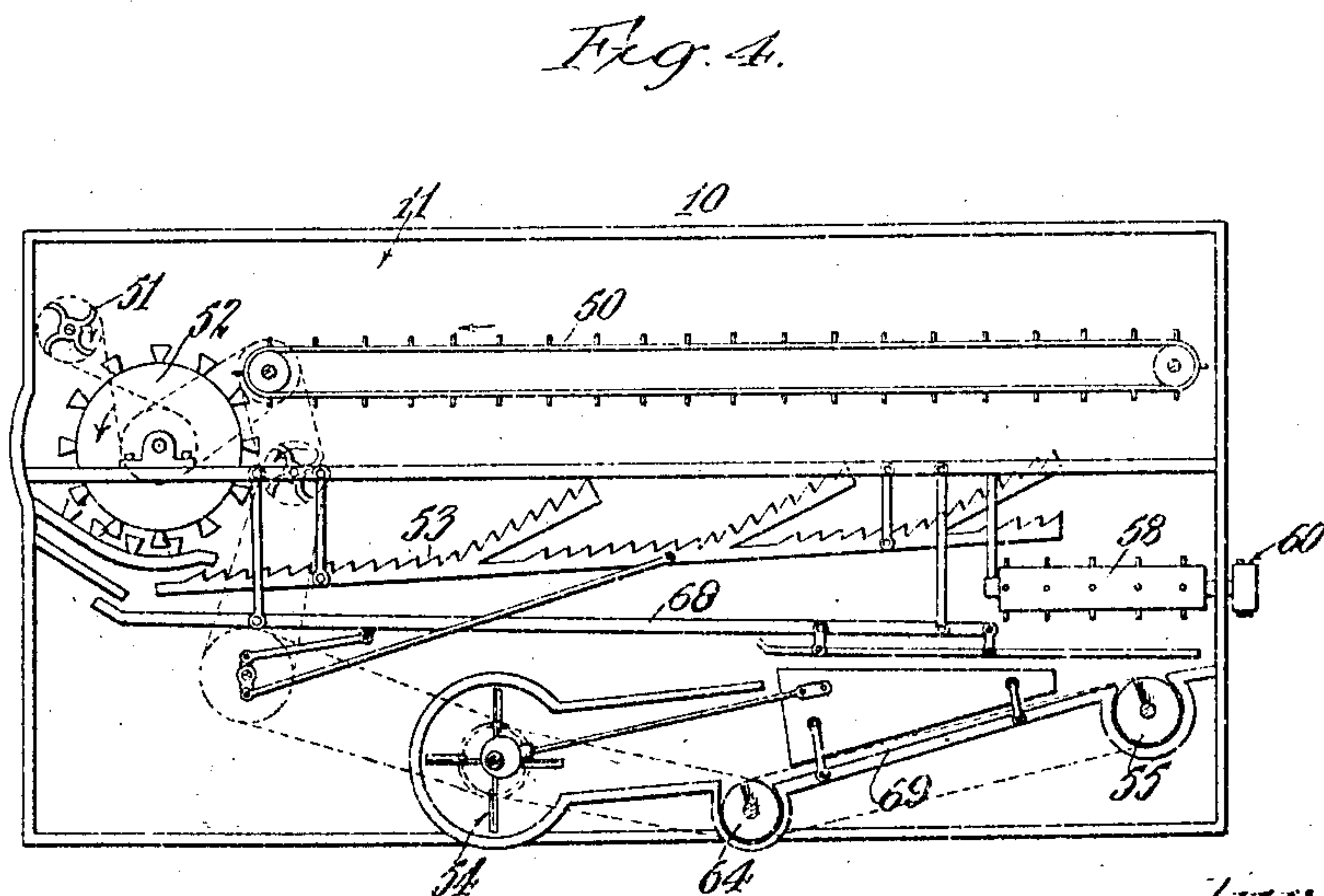
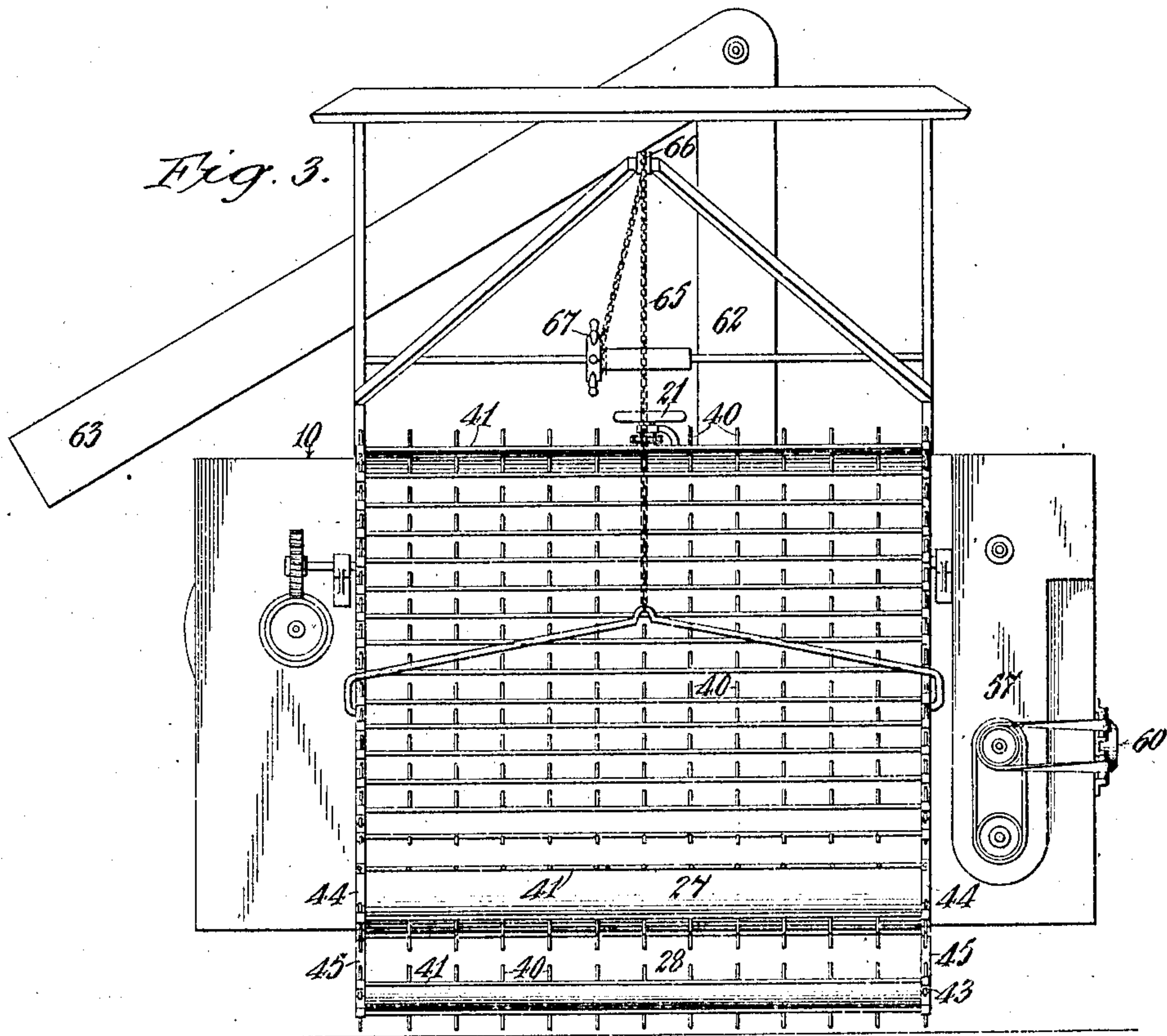
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3 SHEETS-SHEET 3.



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UNITED STATES PATENT OFFICE.

GUY O. WALTERS, OF LONGBEACH, CALIFORNIA.

TRAVELING THRESHER.

No. 925,967.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed June 22, 1907. Serial No. 380,360.

To all whom it may concern:

Be it known that I, GUY O. WALTERS, a citizen of the United States, residing at Longbeach, in the county of Los Angeles and State of California, have invented a new and useful Traveling Thresher, of which the following is a specification.

The object of this invention is to provide a thresher which will travel over a field and pick up loose or bound grain, or seeds, thresh the same and deliver the grain and straw separately.

The invention is distinguished from the combined reapers and threshers which head and thresh the grain, by the fact that it is intended for use in those localities where it is necessary to first set the grain in shocks, windrow or bunches for curing before threshing, the invention providing for picking up of the sheaves from the shocks.

A further object of the invention is to provide a machine of this character in which all the operations are automatically performed under the control of an operator.

Another object of the invention is to provide a traveling thresher which is adapted to handle either heavy or light stand of grain without clogging.

In the accompanying drawings:—Figure 1 is a side elevation of the machine. Fig. 1^a is a detail of the foot of the pick-up. Fig. 2 is a partly sectional elevation opposite to Fig. 1. Fig. 3 is a front elevation thereof. Fig. 4 is a vertical section on the line $x-x$ in Fig. 1.

The machine comprises a traveling motor, preferably a steam motor, more or less of the type of an ordinary traction engine, having a truck 1 mounted on rear wheels 2 and front steering wheel or roller 3, a boiler 4, and an engine 5 connected by gearing 6 to the rear or driving wheels 2. The construction of the boiler is not herein shown in detail, as it forms no part of the present invention. It is preferred to use a boiler of the return flue type and to have the firebox 7 of the boiler at the rear end of the machine, the stack 8 being also at that end, and a platform 9 being provided at the rear of the firebox to support the stoker or firing attendant.

The machine is operated or controlled from the front, the platform 10 for the operating attendant being at the front end of the machine. In a convenient position for access from said platform is a controlling lever 12 for operation of the engine 5 to

control the travel or traction of the machine, said controlling lever being connected to the throttle of the engine by connections 13, 14. Another engine or motor 15 is provided for driving the thresher devices, the same being supplied with steam from the boiler, through the throttle valve 16 controlled by connections 17, 18 from a controlling lever 19, also in a convenient position for access from the front of the machine. Both of the levers 12, 19 may be mounted on a frame 20 extending over the machine. At this seat is also arranged a steering wheel 21 having connections 22, 23 for operating the wheel or roller 3 at the front of the machine for steering or guiding the machine as desired.

The threshing devices are mounted in the box 11 above referred to and may be of any suitable construction. Said box has a feed opening 25 at its front and a straw delivery opening 26 at one side. At the front of the machine is mounted a pick-up or feed device consisting of two aprons or conveyers 27, 28 whose inner portions form between them a throat for receiving the grain, these conveyers passing around rolls or drums 29, 30, 31, 32 which are mounted on a frame consisting of reach bars 33, 34 connected by a strap 35 and by a rod 36 at one side. Rod 36 is mounted to turn in brackets 37 on the reach bars 33, 34, and is provided with a caster wheel 38 at its lower end to run on the ground to thereby support the front end of the pick-up device at the proper height. The aprons 27, 28 are provided with means for engaging and carrying the straw, said means consisting of fingers 40 mounted on rock shafts 41 which extend transversely of the aprons in casings 42, said rock shafts having at their ends arms 43 which, in the travel of the aprons, engage with fixed guides 44 or 45 on the apron supporting frame to hold the fingers in definite position during a certain portion of the travel as hereinafter described. The guide 45 for the lower conveyer fingers has a yielding portion 42, pressed by a spring 56, so as to tend to turn the fingers 40 forwardly, but to yield when the fingers strike any obstruction such as a rock, to avoid breakage. A chain 65, connected to the frame bar 33, passes over pulleys 66 and is operated by a hand wheel 67 to raise the pick-up device from the ground when the machine is traveling to or from the field, etc. The shaft 46 for the lower roller is mounted on the box 11 and is driven by

connections from the thresher motor 15. The upper roller 29 of the upper conveyer is driven by a belt connection 49 from the lower roller. The upper and lower bars form between them a throat or passage for the passage of the unthreshed straw or sheaves and the driving connections are such that the parts of the conveyer aprons which form the upper and lower walls of this passage are moved upwardly together.

The thresher devices are herein shown as comprising a receiving apron 50 near the top of the box and just within the feed opening 25 so as to receive the unthreshed grain and carry it laterally to one end of the box; a cutter 51 and beater 52 to cut and beat the grain to dislodge the grain kernels from the ear; reciprocating agitators or combs 53 to shake the dislodged kernels from the straw and to carry the straw laterally, step by step, to the straw delivery opening 26 at one side of the box; platforms 68, 69 to receive the separated grain; vanner means 54; screw conveyer 55 and elevator 57 for carrying the imperfectly threshed heads back to the receiving apron 50. The gearing 6 connecting the engine 5 to the traction wheels 2 comprises a wheel carrying a bevel gear 70, connected through gear 71, shaft 72, clutch gear 73 to a wheel 75 driven by engine 15, so that when desired both engines can be clutched to the traction wheels in traveling over difficult ground, the thresher mechanism being at this time thrown out of operation by throwing off belt 76. The various elements of the thresher are driven by driving connections 77, 78, 79.

From the delivery opening 26 the straw is conveyed by an apron or conveyer 58 which extends longitudinally and rearwardly of the machine and is mounted on rolls 59 and driven by driving connections 60, said apron or conveyer extending to the rear end of the machine adjacent to the firing platform 9 so that the firing attendant can take off as much straw therefrom as is needed for firing the boiler, the remainder of the straw being dumped in a windrow back of the machine or into a wagon passing along with the machine, the threshed grain or seed being carried by conveyer 64 up elevator 62 and delivered through spout 63 to a wagon box or tank alongside of thresher.

In operation, the machine is brought to the field by the use of the engine 5, with or without the aid of the engine 15 as above described, and is then propelled over the field by the engine 5, the engine 15 being connected to drive the thresher mechanism. As the machine passes over the field, the pick-up conveyers 27, 28 are operated in the direction of the arrows in Fig. 1, so that the fingers 40 on each conveyer move inwardly toward the throat between the conveyers. Any grain, straw, or seed that may be in the path of the

machine is thus swept or drawn into the throat between the conveyers by the action of these fingers, the fingers on the upper conveyer brushing the grain downwardly and backwardly, and the fingers on the lower conveyer brushing the grain forwardly, upwardly and inwardly and then backwardly. The fingers are held in proper position to produce this result by the guides 44, 45 aforesaid, and as they pass into the space between the conveyers the fingers are, by the same guides, caused to project upwardly so that the fingers of each conveyer extend forward, as regards the direction of motion of the conveyers, and toward the other conveyer, pushing the grain or straw, etc., in front of them and delivering it through the opening in the thresher box onto the conveyer 50 therein. Said conveyer delivers the grain to the breaker means 51, 52 from which it passes to the shakers 53 and thence by the platforms 68 and 69 to the screw conveyer 55, being vanned and cleaned in its passage by the means 54. The grain is carried up and discharged by the elevator 62 and the straw is delivered to conveyer 58 and passes rearwardly thereon to the firing platform, whence so much of it is removed as necessary for firing the boiler, the remainder of the straw falling over to the rear in a windrow.

In the ordinary or light stand of grain the two motors or engines will be operated separately and independently, the engine 5 driving the traction mechanism to propel the machine along the ground, and the engine 15 operating the thresher and pick-up mechanism to pick up the grain and thresh it. In case, by reason of an unusually heavy stand of grain or of lodged grain, there is any tendency of the thresher mechanism to clog or to fail to handle the amount of grain being delivered to it, the operator can by means of the clutch mechanism 72, etc., couple the engine 5 for the traction mechanism to the thresher mechanism so that the power is applied from both engines in driving the thresher mechanism; at the same time, the extra load thus brought upon the engine 5 reduces the tractive speed so that less grain is presented to the pick-up means for elevation and threshing. Conversely, if for any reason, the tractive load greatly exceeds the threshing load on the respective engines, the engines may be compelled to apply the surplus power of the threshing motor to aid in traction.

Under ordinary conditions the motors are more advantageously operated independently so that the operator can regulate the speed of the traction according to circumstances.

What I claim is:—

1. A traveling thresher comprising a thresher mechanism, a traveling support therefor, pick-up means extending forwardly and downwardly from the thresher mech-

anism to pick up unthreshed grain, etc., from the ground in front of the machine, said pick-up means comprising two endless conveyers, each provided with a series of pivoted fingers, each finger having an arm provided with a roller, a guide for the rollers of the fingers on each conveyer to cause the said fingers to extend forwardly and inwardly into the passage between the conveyers as the fingers are carried upwardly by the conveyers, a guide extension pivoted to the lower end of each guide for the lower conveyer fingers, and a spring pressing said guide extension and causing the same to bear yieldingly against the rollers.

2. A traveling thresher provided with traction mechanism and with thresher mechanism, a motor connected to operate the traction mechanism to propel the machine along the ground, a motor separate and independent from the operating motor for the traction mechanism, and connected to operate the thresher mechanism, and means for coupling and uncoupling said motors to enable the thresher mechanism and traction mechanism to be operated independently, and enable said mechanisms to be coupled together to apply power from both motors for operating

the threshing mechanism and to retard the tractive movement when the motors are so coupled.

3. A traveling threshing machine, a motor connected to propel the same, threshing mechanism and grain pick-up means, a second motor independent of the first named motor and connected to operate said threshing mechanism and grain pick-up means, means for coupling and uncoupling said second motor to and from the first named motor to enable the threshing mechanism and grain pick-up means to be operated independently of the propelling means when the motors are uncoupled and to enable the motors to be coupled together to utilize both motors in the traction of the machine when the tractive load exceeds the threshing and pick-up load or to enable both motors to be used in the pick-up and threshing operation when the load thereof is excessive.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 14th day of June, 1907.

GUY O. WALTERS.

In presence of—

FREDERICK S. LYON,

FRANK L. A. GRAHAM.