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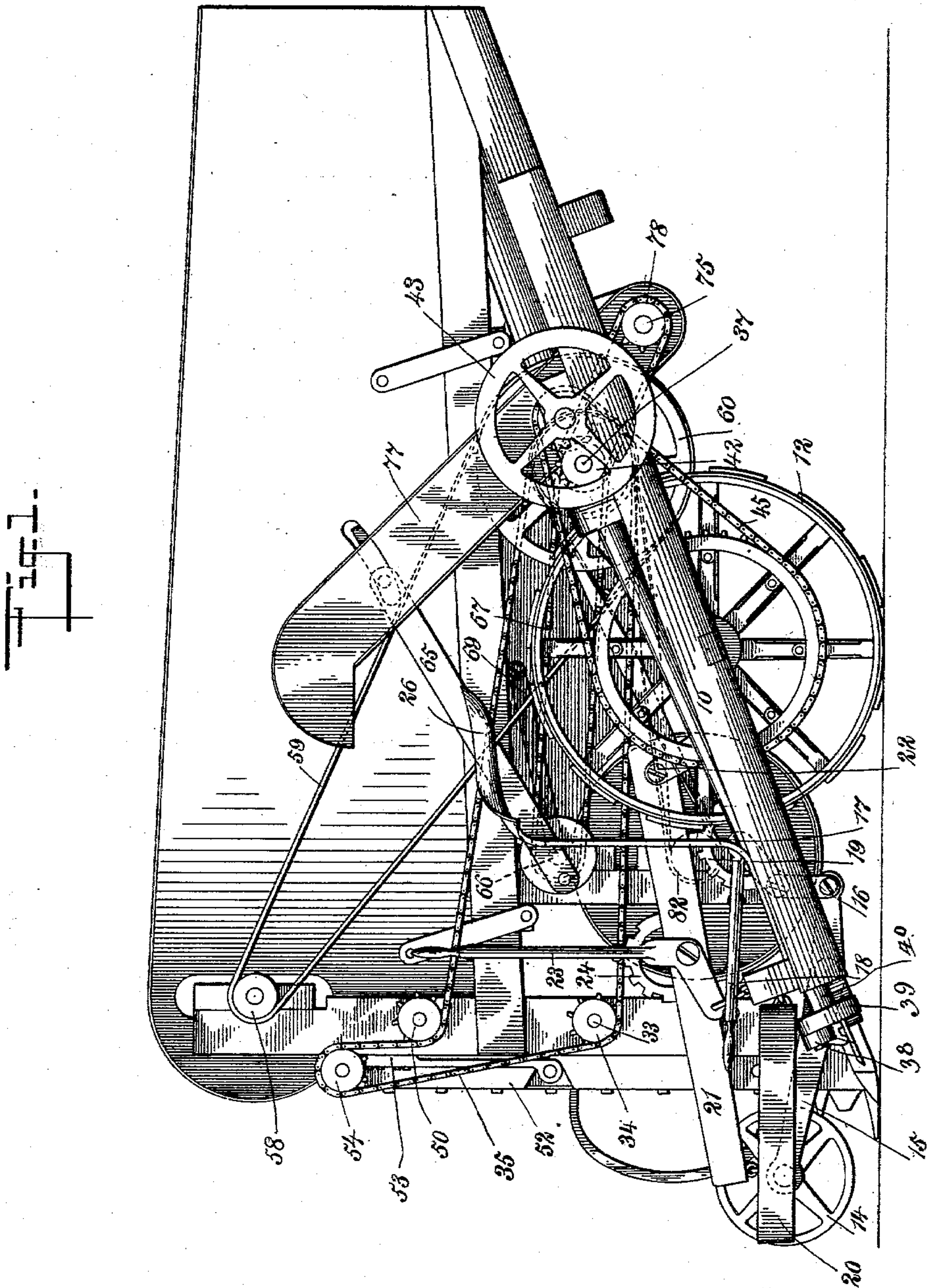
PATENTED OCT. 6, 1903.

H. TRAEGER.
HARVESTER.

APPLICATION FILED SEPT. 12, 1901.

NO MODEL.

4 SHEETS—SHEET 1.



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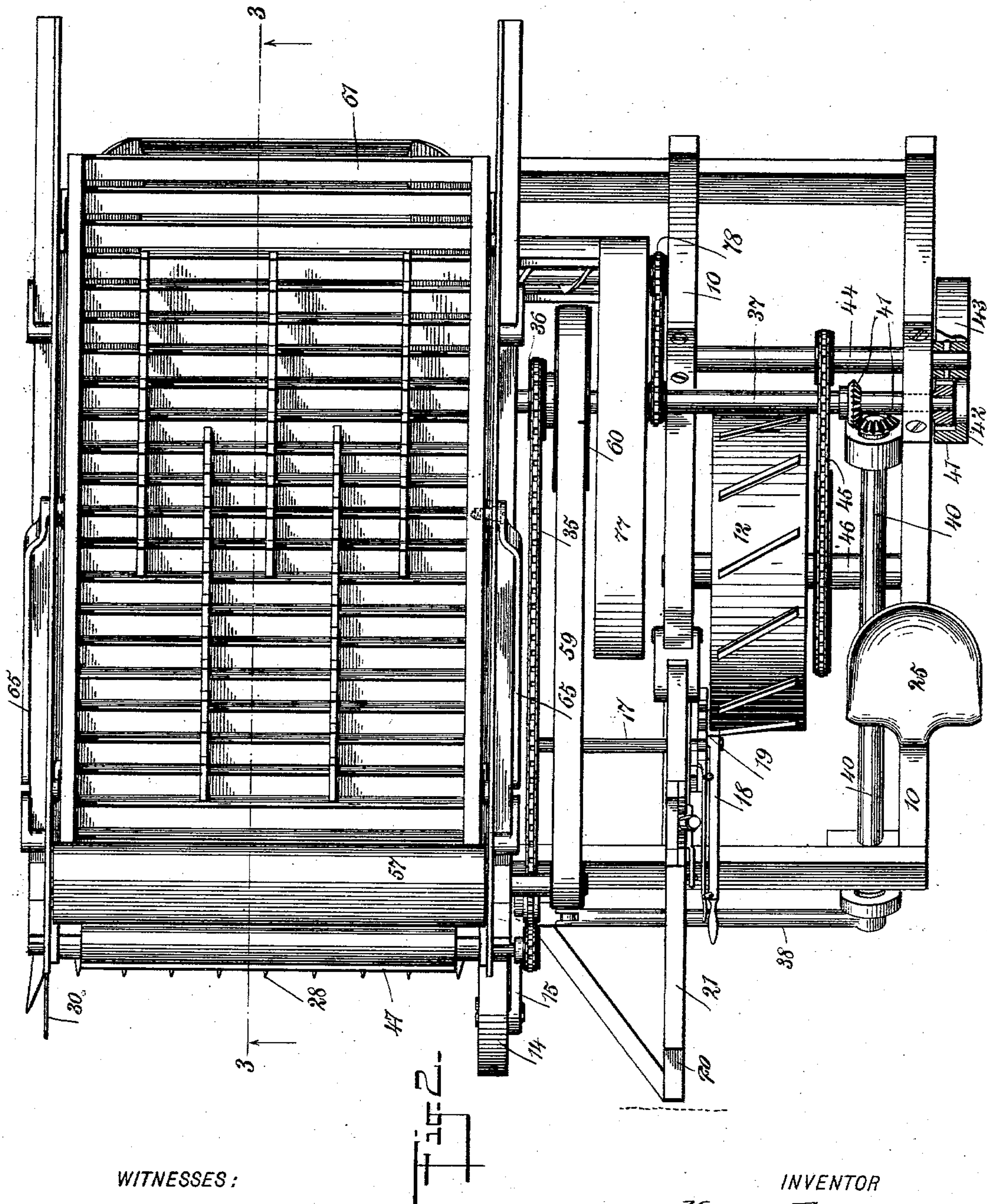
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4 SHEETS—SHEET 2.



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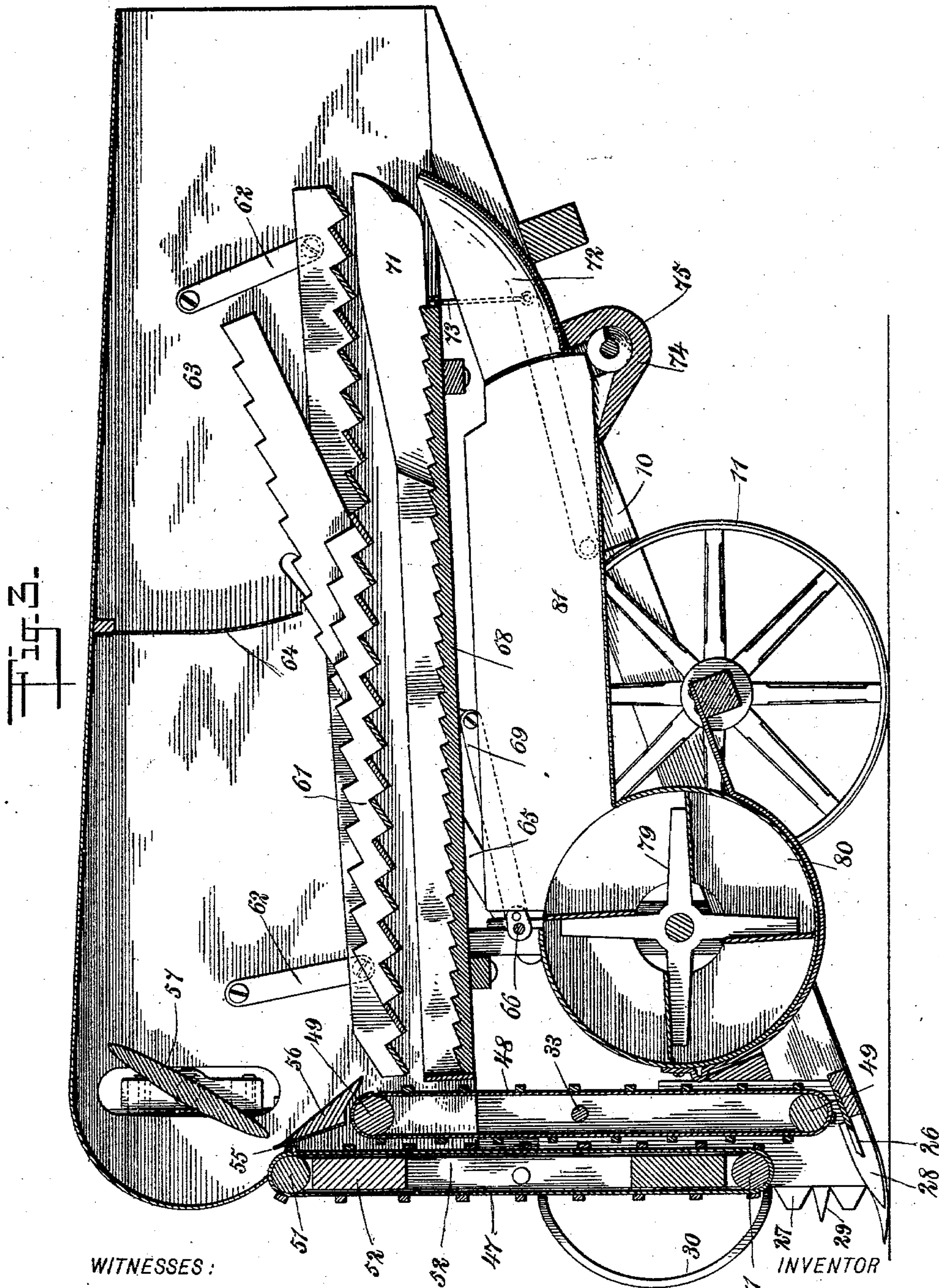
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4 SHEETS—SHEET 3.



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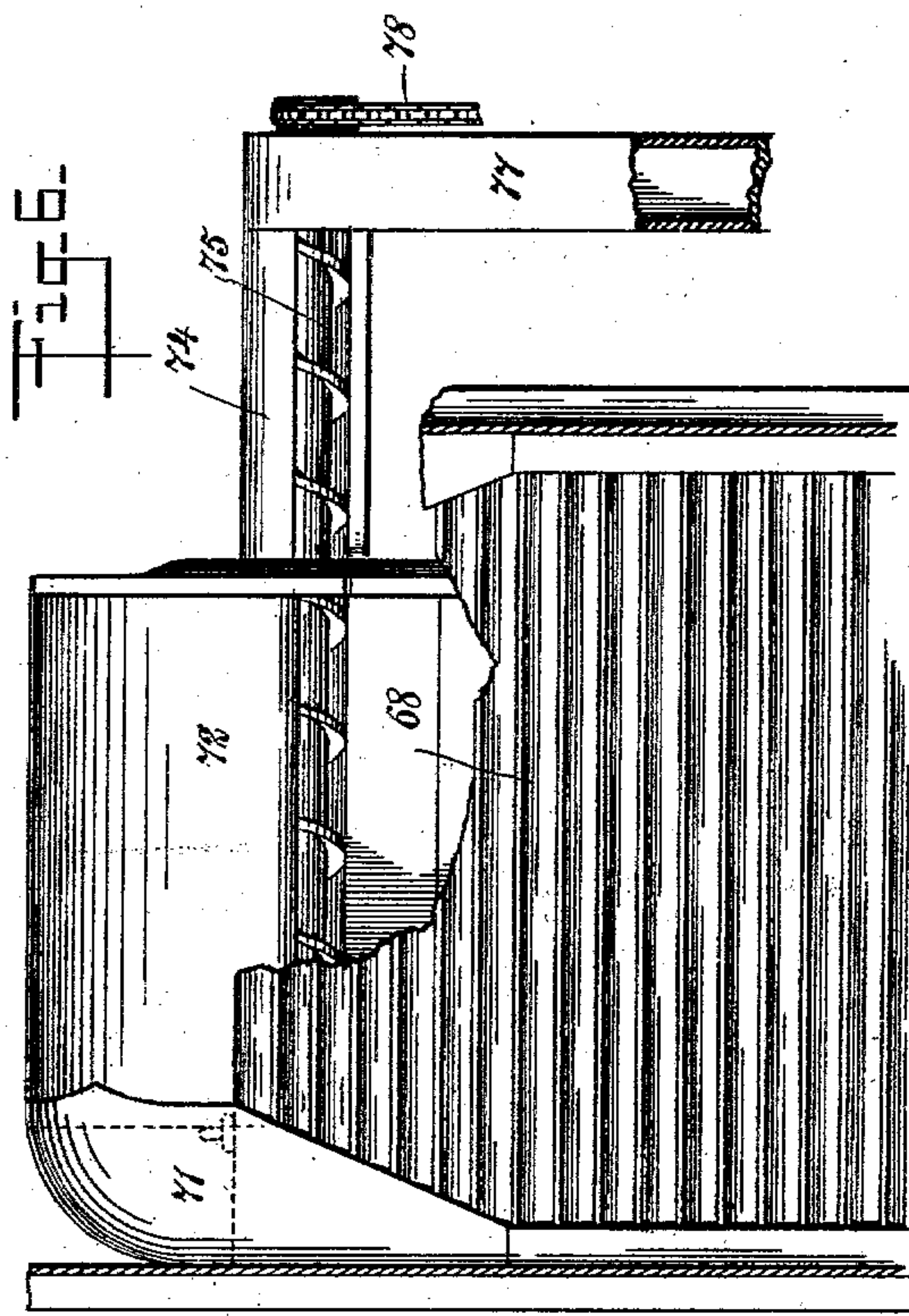
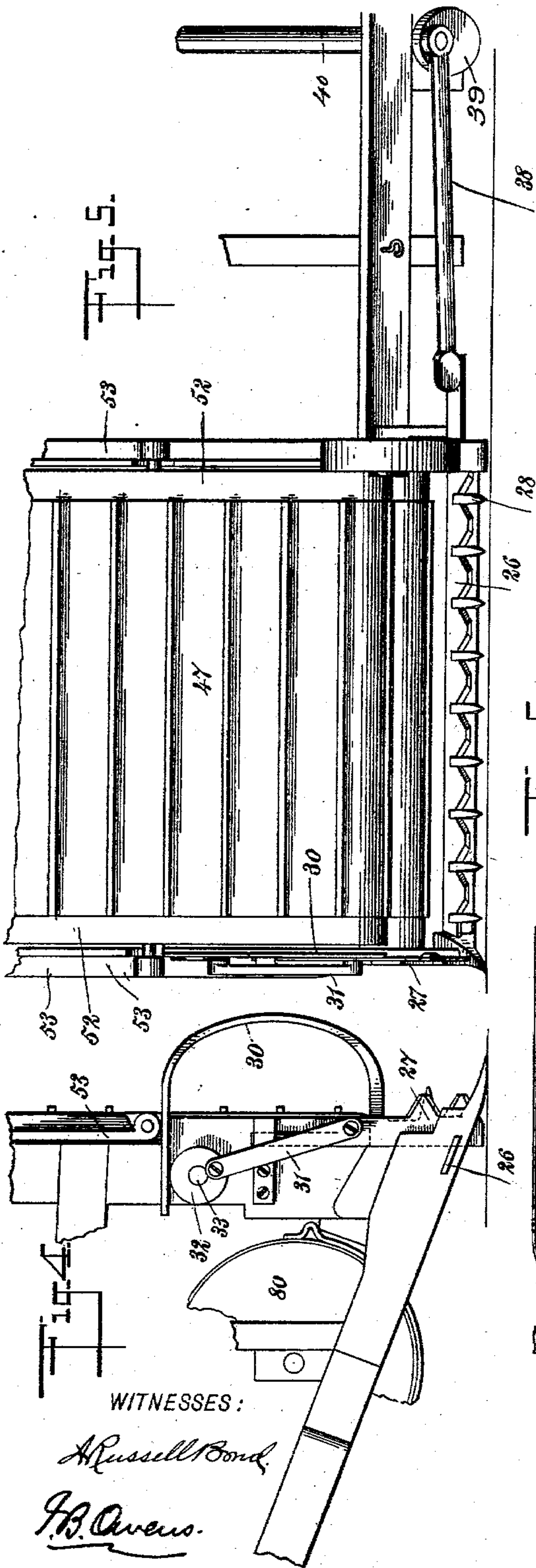
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

HENRY TRAEGER, OF AUBURN, WASHINGTON.

HARVESTER.

SPECIFICATION forming part of Letters Patent No. 740,949, dated October 6, 1903.

Application filed September 12, 1901. Serial No. 75,185. (No model.)

To all whom it may concern:

Be it known that I, HENRY TRAEGER, a citizen of the United States, and a resident of Auburn, in the county of King and State of Washington, have invented a new and Improved Harvester, of which the following is a full, clear, and exact description.

This invention relates to a machine for shelling and separating peas from the hulls; and it comprises means for effecting these functions combined in a novel manner into a wheeled apparatus adapted to be associated with a cutting or harvesting apparatus and drawn through the field in which the peas are grown.

This specification is the specific disclosure of one form of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the machine embodying my invention. Fig. 2 is a plan view thereof. Fig. 3 is a longitudinal section on the line 3 3 of Fig. 2. Fig. 4 is a fragmentary elevation showing particularly the sickles. Fig. 5 is a front elevation of the same parts, and Fig. 6 is a fragmentary plan showing the conveyer and elevator for the peas when separated.

The machine has a suitable framing 10, mounted mainly on wheels 11 and 12, of which the former is a carrying-wheel and the latter both a carrying and traction wheel. (See Figs. 2 and 3.) At the front of the machine is located a wheel 14, which is adapted to ride on the ground to gage the elevation of the front part of the machine, this wheel being carried on a lever 15, fulcrumed on the framing and connecting by a link 16 with a crank on a rock-shaft 17, mounted on the framing. To the rock-shaft 17 is attached a hand-lever 18, and by the operation of this lever the wheel 14 may be adjusted as desired. 19 indicates a toothed quadrant which serves to hold the lever 18 in the desired adjustment. In Fig. 1 the wheel 14 is shown raised to clear the ground, thus permitting the forward end of the machine to actually engage therewith. By throwing the lever 18 rearward the wheel 14 will be moved down into

engagement with the ground and the front of the machine raised. The team for drawing the machine is connected with the tongue or pole 20, and this is pivotally connected with the framing of the machine, as indicated in Fig. 1. It may be raised and lowered by means of a beam 21, fulcrumed at its rear end at the point 22 and loosely connected to the tongue and actuated through the means of an elbow-lever 23, joined to the beam 21 and to a stationary part of the frame 10, as shown in Fig. 1. This lever 23 is adapted to be manually operated and works with a toothed quadrant 24, by which the lever may be held in any position desired.

25 indicates a seat suitably mounted on the frame, in which the driver rests in convenient reach of the levers 18 and 23.

The cutting mechanism comprises a horizontal sickle 26 and a vertical sickle 27, these sickles working, respectively, with fingers 28 and 29. The horizontal sickle 26 severs the tangled vines from the ground, and the vertical sickle 27 severs the vines which are tangled together at the side of the machine, thus cutting a clear swath through the intertwined vines of the peas. A guard 30 is provided just above the vertical sickle 27 to press downward the vines, causing them to pass into the reach of the vertical knife. This knife is driven (see Fig. 4) by a link 31, connected to a crank-disk 32 on a shaft 33, extending horizontally across the machine. The crank-disk 32 is located at the right-hand side of the machine, and the shaft 33 extends across to the left-hand side, where it is provided (see Fig. 1) with a sprocket-wheel 34, around which passes a chain 35, extending from a driving-sprocket 36 on a shaft 37, to be hereinafter fully described. The horizontal sickle 26 is driven (see Fig. 5) by a pitman 38, connected to a crank-disk 39 on a shaft 40, located at the left-hand side of the machine and extending rearward to the shaft 37, to which the shaft 40 is connected by means of miter-gearing 41. The shaft 37 is driven (see Fig. 2) by a pinion 42, which engages into an internal gear 43, fastened on a shaft 44, this shaft 44 receiving its movement through the medium of sprocket-and-chain gearing 45, extending from the axle 46 of the traction-wheel 12. As the vines are

severed by the sickles 26 and 27 they are taken up and elevated by two aprons 47 and 48. The apron 48 (see Fig. 3) is carried around two drums 49, the journals of which are mounted in stationary parts of the framing. This apron is driven from the uppermost drum 49 through the medium of a sprocket-wheel 50, carried on one of the journals of the drum, and around which wheel passes the before-mentioned chain 35. (See Fig. 1.) The apron 47 is mounted on two drums 51, and these drums are carried in a floating frame 52, pivotally mounted on the main frame, by means of spring-arms 53, which are connected to the frame 52 at the middle thereof and which extend upward and are joined to the upper part of the main frame of the harvester. (See Figs. 1 and 5.) It will be seen that these spring-arms carrying the frame 52 by means of a pivot situate intermediate the frame 52 allow the apron 47 to yield in accordance with the volume of vines passing between the two aprons. The apron 47 may not only yield outward bodily, but it may yield on its pivot, throwing outward its lower part and inward its upper part, or vice versa. The apron 47 is driven by means of a sprocket-wheel 54, fastened to one of the journals of the upper drum 51, and around which wheel 54 passes the before-mentioned sprocket-chain 35. As the vines are carried upward from the sickles by the action of the belts 47 and 48 they pass by a blade 55, carried on a transverse beam 56, forming a rigid part of the main frame. Above this blade 55 and beam 56 is located a beater 57 in the form of a transversely-elongated plate. The beater 57 is driven rapidly by means of a pulley 58, carried on one of its journals and driven in turn by a belt 59, passing from a band-pulley 60, fastened on the shaft 37. The vines in passing up over the blade 55 are forcibly pressed against it by the rapidly-revolving beater 57. This breaks the pods of the peas and effectually separates them. The beater, further, causes the mass of vines to be steadily fed over the upper edge of the blade 55, and thus the vines are taken from the aprons as fast as presented thereby. The peas and chaff fall upon a rack 61, made up of transverse slats separated to permit the passage of the peas through them. This rack is hung to vibrate on links 62, mounted in a hood 63, inclosing the top of the machine. Over the rack is located a yielding baffle 64, which arrests the flight of certain of the peas from the beater. This rack owing to its serrated form steadily advances the chaff toward the rear of the machine. The rack is driven by links 65, (see Figs. 2 and 3,) located one at each side of the machine and having connection with a crank-shaft 66, passing transversely across the harvester. This shaft 66 is driven by a chain 67, passing around a sprocket-wheel on the shaft 66 and extending rearward to and around a similar

wheel on the right-hand extremity of the shaft 37. Below the vibrating rack 61 is located a grain-board 68, which is arranged to be reciprocated in a horizontal plane through the action of links 69, connected with cranks on the shaft 66. (See Figs. 1 and 3.) This grain-board advances the peas to the rear of the machine, where the peas are discharged past shoes 71, located one at each side of the grain-board, into a boot 72, hinged to the discharge end of the tunnel 81 and hung from the grain-board 68 by means of links 73, so that the boot vibrates with the grain-board and discharges the peas into a trough 74, wherein is located a screw 75. This screw advances the grain laterally through the trough 74 into an elevator 77, located at the right-hand side of the machine. The elevator 77 may be of any form desired and is not shown in detail. This elevator is operated from the axis of the screw 75, and this screw in turn is driven by sprocket-gearing 78 from the shaft 37. (See Figs. 1 and 2.)

79 indicates a suitable fan incased in a box 80, suspended from the rigid parts of the framing 10. This box 80 discharges into a tunnel 81, which leads to the boot 72, and as the peas are sifted down into the boot from the grain-board 68 the blast of the fan 79 passes across the falling peas, and the chaff and other impurities are thus blown out of the rear of the machine, along with the vines and the like, which are discharged at the rear of the vibrating rack 61. The fan 79 is driven by gearing 82 from the shaft 37. The elevator 77 discharges the peas at its forward end, (see Fig. 1,) and a bag or other receptacle should be suitably arranged at the discharge end of the elevator to receive the peas therefrom.

The operation of the apparatus will be clearly understood by all persons skilled in the art, and the details of recapitulation of this will not be necessary. It will be observed that the vines are cut and the peas threshed out thereof and finally separated from the chaff and other impurities and deposited into a suitable receptacle in condition for the market.

Various changes in the forms, proportions, and minor details of my invention may be resorted to without departing from the spirit thereof, as I consider myself entitled to all such variations as may lie within the scope of my claims.

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

1. In a threshing-machine, the combination with the frame and with the beating and separating means, of an apron, drums over which the apron is carried, said drums being mounted in stationary parts of the frame, a second apron, a movable apron-frame, a spring pressing the same toward the first apron, and drums carried in said movable apron-frame and over which drums the second apron runs, said aprons extending alongside each other

and serving to advance the material threshed to said beating and separating means.

2. In a threshing-machine, the combination with the frame and with the beating and separating means, of an apron, drums over which the apron is carried, said drums being mounted in stationary parts of the frame, a second apron, an apron-frame, drums on said frame, over which drums said second apron runs, and spring-arms attached to the main frame and having the apron-frame pivoted thereto at points intermediate the ends of the apron-frame, said aprons extending alongside each other and serving to advance the material threshed to said beating and separating means.

3. In a threshing-machine, the combination with the frame and with the beating and separating means, of an apron, drums mounted on the frame and over which drums the apron runs, a second apron, an apron-frame on which the second apron is carried, and yielding means to which the apron-frame is pivoted intermediate its ends, for the purpose specified, said aprons extending alongside each other and serving to advance the material threshed to the beating and separating means.

4. In a threshing-machine, the combination of two aprons disposed vertically and serving to raise the material being threshed, a stationary blade located at the upper ends of the aprons and having its edge projected upward and over which edge the said material is passed, and a plate or plate-like beater mounted to rotate around an intermediately-located axis and located adjacent to said edge of the blade and working against the same, for the purpose specified.

5. In a threshing-machine, the combination of means for moving upward the material being threshed, a stationary blade located at the upper end of said means, the blade being vertically disposed and having its edge projected upward and over which edge the said material is passed, and a plate or plate-like beater mounted to rotate around an intermediately-located axis and located adjacent to said edge of the blade and working against the same, for the purpose specified.

6. In a threshing-machine, the combination with the beating means, of a vibratory chaff-rack, a vibratory grain-board, a blowing means, a tunnel leading therefrom and located below the grain-board, a boot movably mounted at the end of the tunnel and having connection with the grain-board to vibrate therewith, said boot receiving the grain from the grain-board, means for carrying the grain off from the said boot, and shoes located at the discharge end of the grain-board and at each side thereof to direct the grain into said boot.

7. In a threshing-machine, the combination of vertically-disposed means for raising the

material to be threshed, a blade at the upper end of said means, said blade having an upwardly-projected edge, a rotary beater juxtaposed to said blade for the purpose specified, a vibratory chaff-rack, a vibratory grain-board, a blowing means, a tunnel located under the grain-board and leading from said blowing means, a boot movably mounted at the end of the tunnel and having connection with the grain-board to vibrate therewith, said boot receiving the grain from the grain-board, and means for carrying the grain off from the said boot.

8. In a threshing-machine, the combination with the frame and with the beating and separating means, of an apron, means on which the apron is carried, said means being mounted in stationary parts of the frame, a second apron, a means for carrying the same, and spring-arms attached to the main frame and engaging and supporting the said means for carrying the second apron, whereby yieldingly to mount the second apron, said aprons extending alongside of each other and serving to advance the materials threshed to said beating and separating means.

9. In a threshing-machine, the combination with the separating means, of a vibratory chaff-rack, a vibratory grain-board arranged beneath the chaff-rack, a fan arranged beneath the grain-board, a tunnel extending from the fan under the grain-board to the discharge end thereof, a hingedly-mounted boot arranged at the discharge end of the tunnel to receive the grain from the grain-board, a connection between the grain-board and the boot, to move the boot simultaneously with the grain-board, and means for carrying off the grain from the boot.

10. In a threshing-machine, the combination with the framing, of vertically-disposed aprons adapted to carry the material to be threshed between them, means for yieldingly pressing one apron toward the other, a stationary blade located at the discharge ends of said apron, a flat plate-like beater mounted to turn around an intermediately-situated axis and coacting with said stationary blade, a vibratory chaff-rack receiving the chaff from the blade and beater, a vibratory grain-board arranged below the chaff-rack, a fan located beneath the grain-board, a tunnel extending from the fan under the grain-board to the discharge end thereof, a boot movably mounted at the end of the tunnel, said boot receiving the grain from the grain-board, and gearing for driving the mobile parts.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY TRAEGER.

Witnesses:

MICHAEL STAHL,
E. P. WHITNEY.