

No. 608,492.

Patented Aug. 2, 1898.

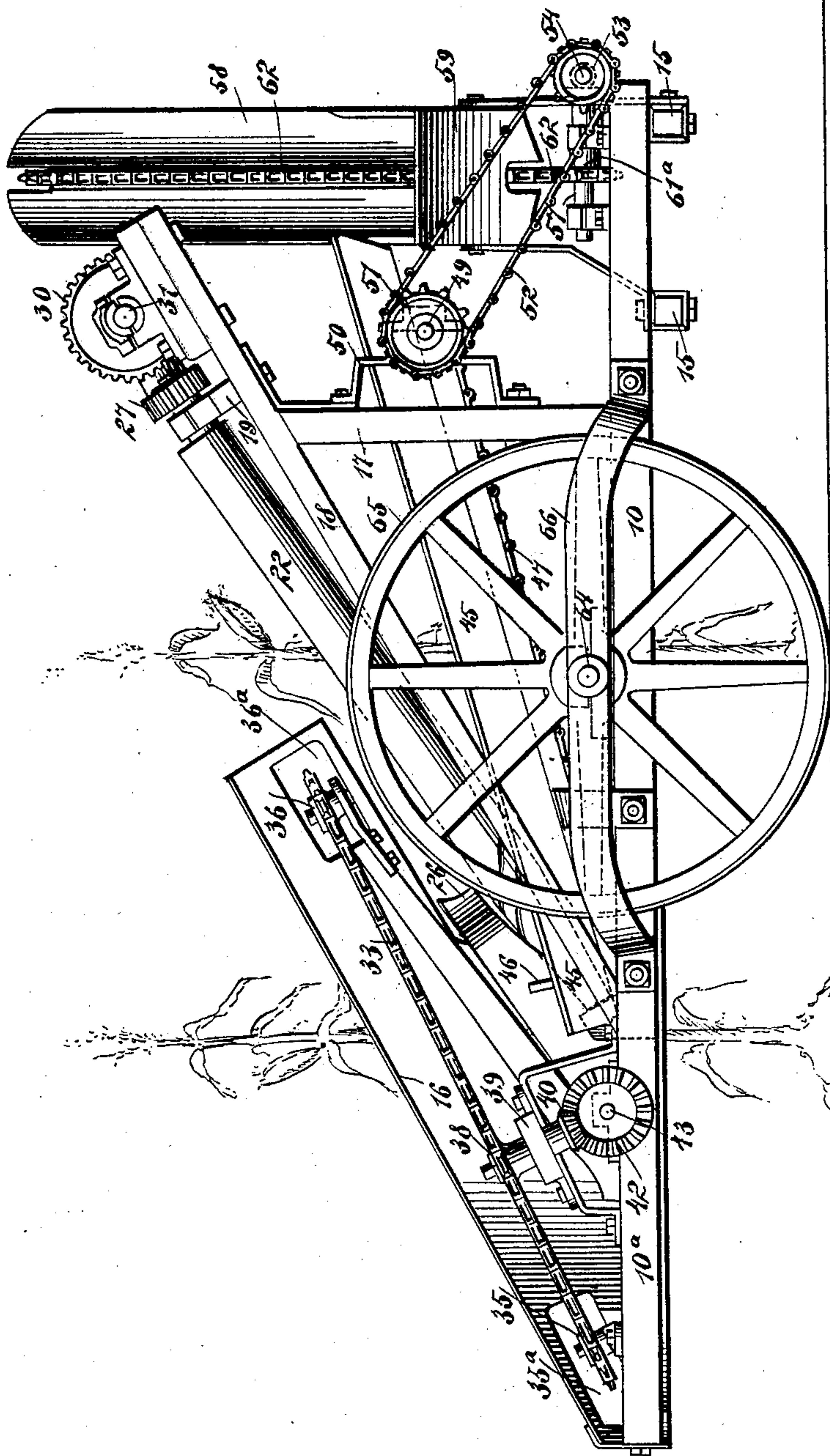
J. TJSSEM.
CORN HARVESTER AND HUSKER.

(Application filed Sept. 1, 1897.)

(No Model.)

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Fig 1



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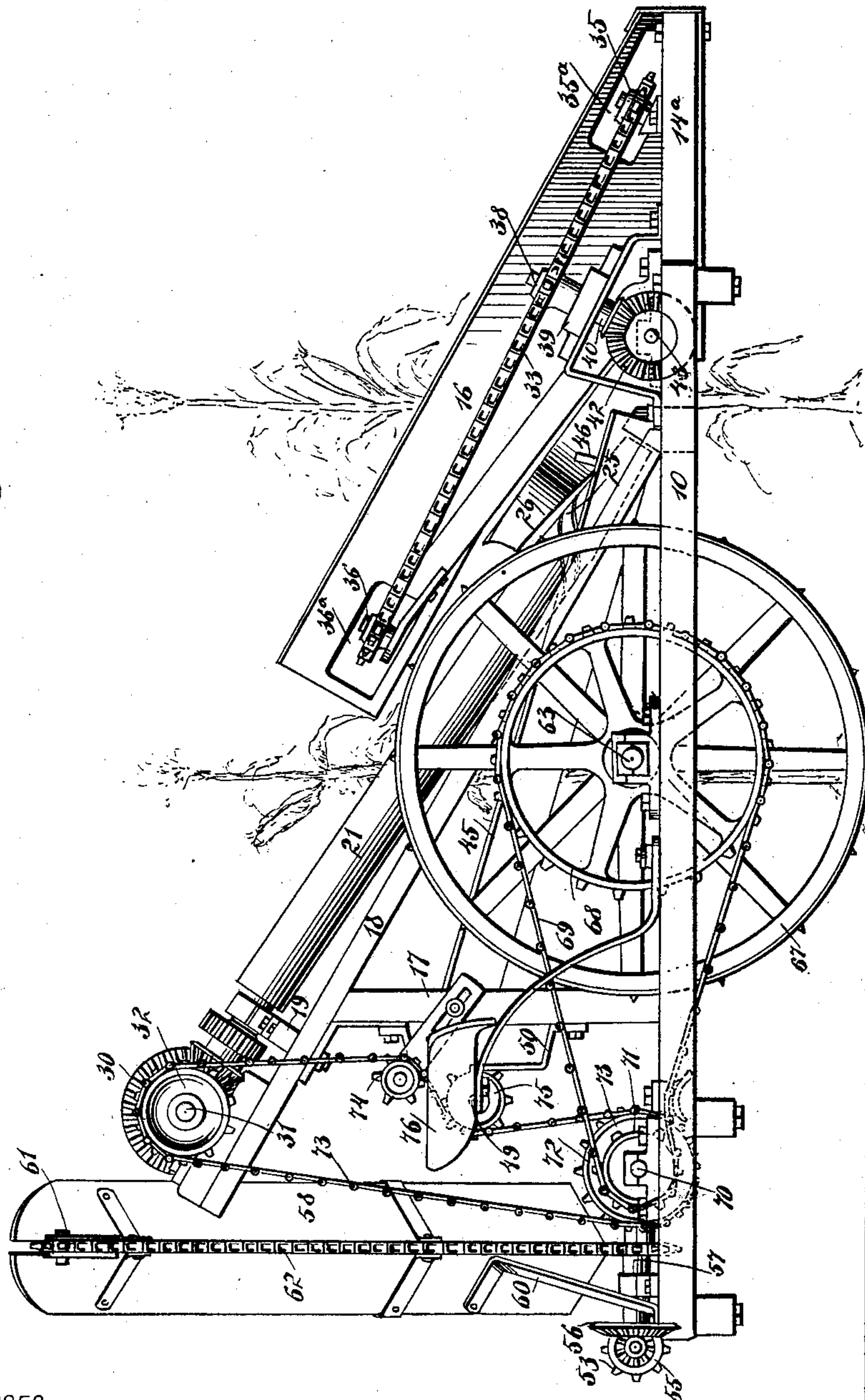
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Fig 2



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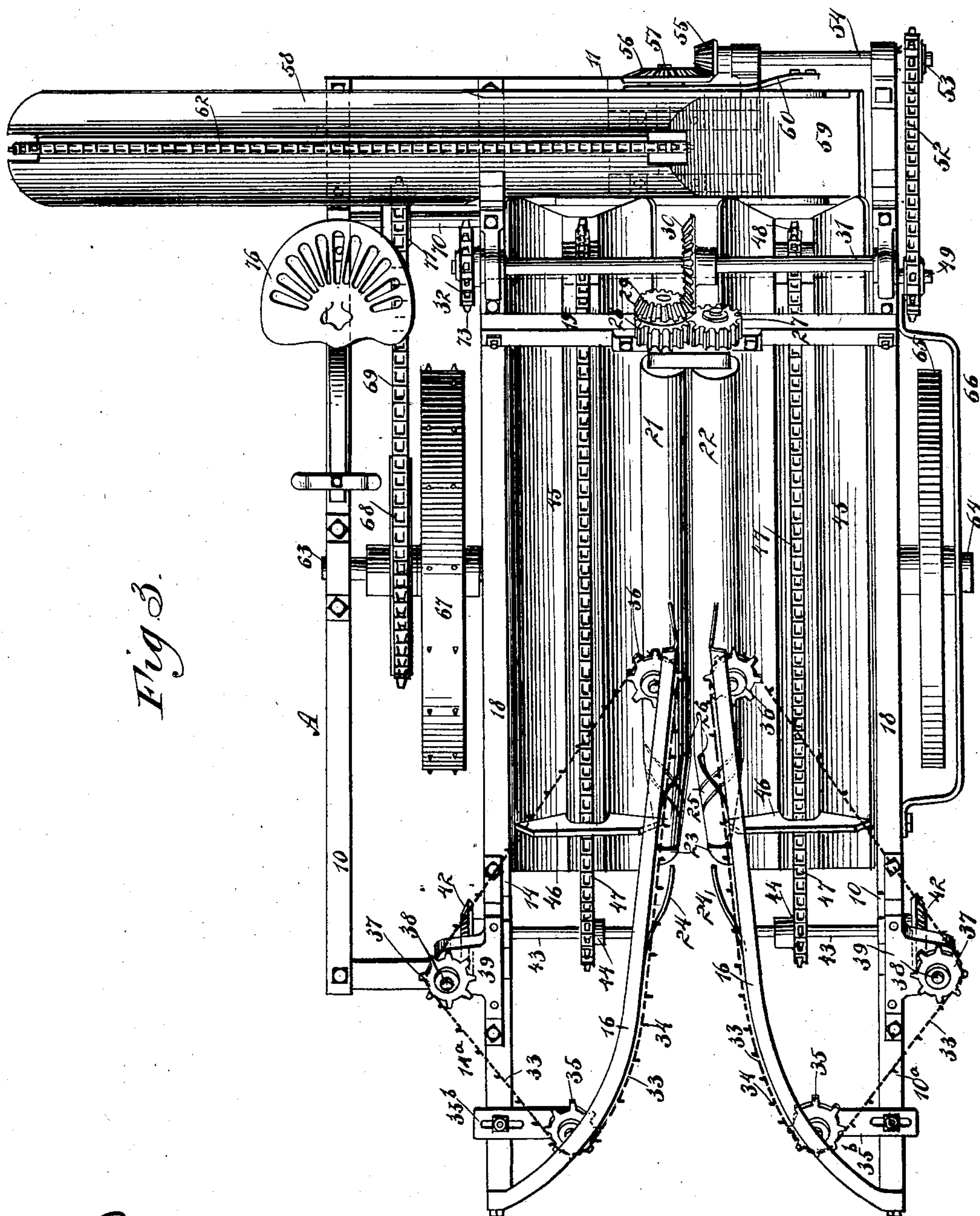


Fig. 3.

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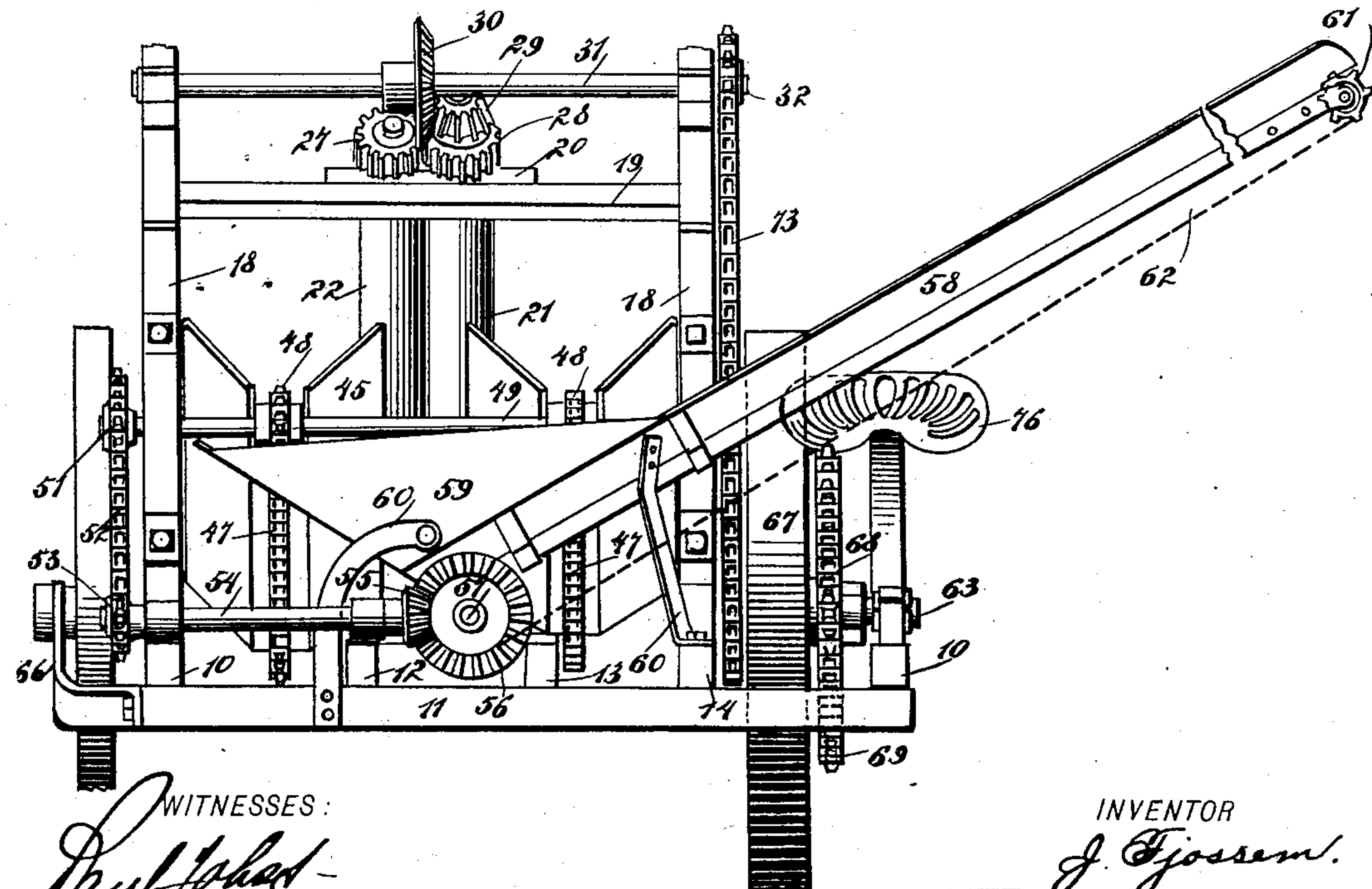
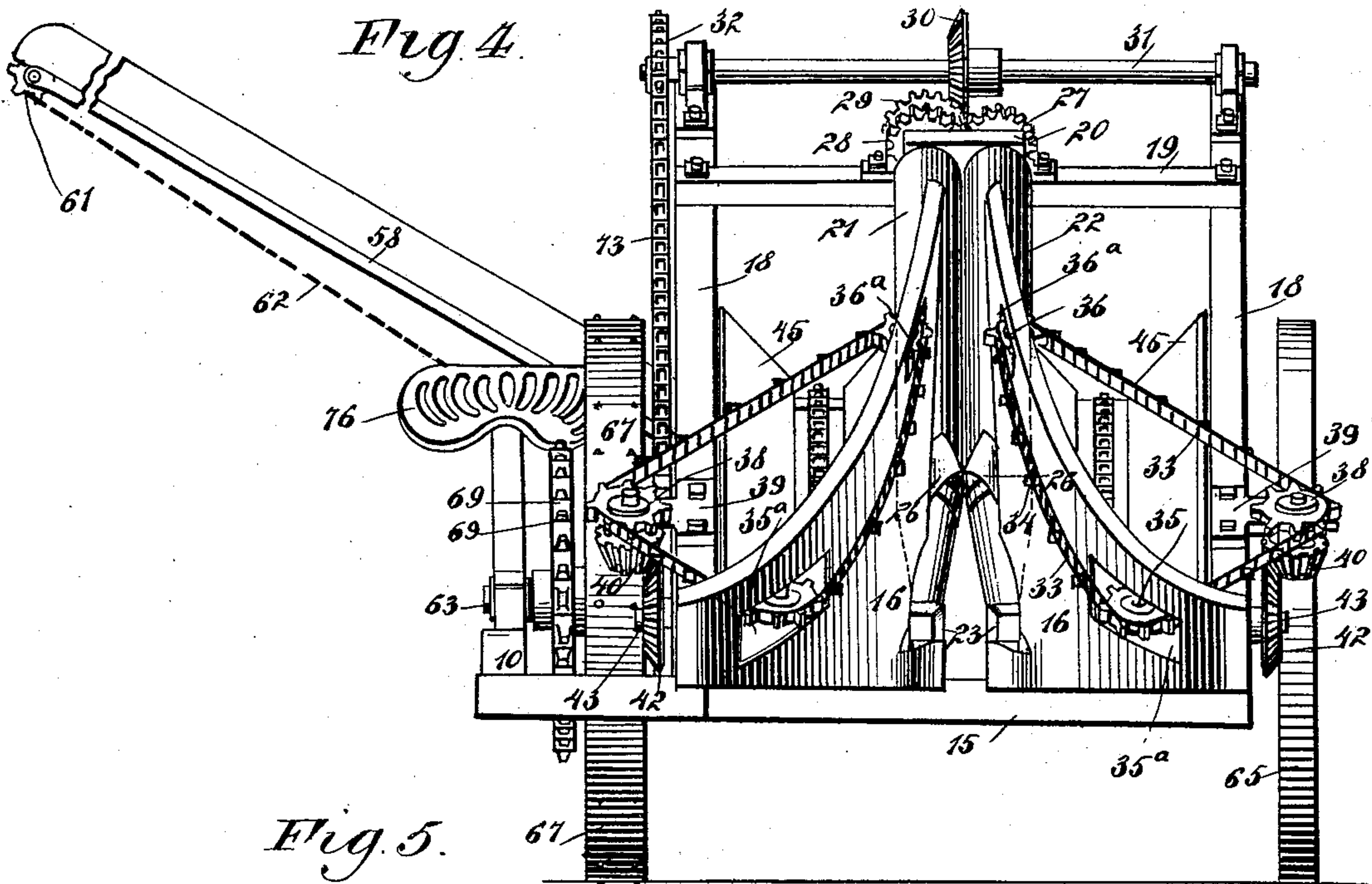
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JOHN TJOSSEM, OF PAULLINA, IOWA.

CORN HARVESTER AND HUSKER.

SPECIFICATION forming part of Letters Patent No. 608,492, dated August 2, 1898.

Application filed September 1, 1897. Serial No. 650,275. (No model.)

To all whom it may concern:

Be it known that I, JOHN TJOSSEM, of Paulina, in the county of O'Brien and State of Iowa, have invented a new and Improved
5 Corn Harvester and Husker, of which the following is a full, clear, and exact description.

The object of my invention is to provide a machine adapted to travel on a corn-field, being so constructed that as the machine advances it will remove the ears from the standing corn, husk the said ears, and convey the ears to an elevator, enabling the ears to be delivered to a wagon traveling alongside of the machine.

15 A further object of the invention is to provide a machine of the character above set forth which will be light, simple, and durable in its construction.

20 The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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.

30 Figure 1 is an elevation of the machine taken from the left-hand side. Fig. 2 is an elevation of the machine taken from the right-hand side. Fig. 3 is a plan view. Fig. 4 is a front elevation of the machine, and Fig. 5 is a rear elevation of the machine.

The frame A usually consists of outer side pieces 10, connected at the rear by a cross-bar 11, intermediate longitudinal bars 12 and 13, located one at each side of the center, and a third intermediate beam 14, which is placed between the center beam 13 and the right-hand side beam 10. The left-hand side beam
40 10 is provided with an extension 10^a at its forward end, and a corresponding extension 14^a is provided for the longitudinal beam 14. Suitable cross-bars 15 may be provided for the frame wherever necessary.

45 Two directing-shields 16 are supported vertically at the front of the machine, one shield being at each side of the center. These shields consist of plates having a suitable framing, and one of the plates is secured at its outer
50 end to the outer extremity of the extension of the left-hand side beam 10, while the other

plate at its outer end is secured to the extension of the intermediate beam 14 at the right-hand side of the machine. The two plates are then carried rearward in a converging
55 line, so that while the shields diverge at their outer ends they converge materially at their inner ends. As the shields are carried rearward they are given a slight upward inclination, and the shields terminate at or near the
60 central portion of the main frame.

An auxiliary frame is provided in addition to the main frame. This auxiliary frame consists of two uprights 17, secured one on the left-hand side beam 10 and the other to the
65 intermediate beam 14, and side beams 18, which are secured to the uprights, extending beyond their rear edges, the said upper side beams 18 having a forward and downward inclination, their forward extremities being
70 secured to the forward portions of the beams 10 and 14 of the frame, as shown in Figs. 1 and 2. This upper or auxiliary frame is provided near its upper end with a cross-bar 19. Upon the center of this cross-bar a bearing 20 is secured, in which bearing the upper trunnions
75 of two husking and snapping rollers 21 and 22 are journaled. These husking and snapping rollers are placed quite close together and have a forward and downward inclination. The lower or forward end of each roller is made more or less conical, and the trunnions of the rollers at the conical ends are journaled in boxes 23, secured usually to the
80 central cross-beams 12 and 13 of the frame. The two rollers at their conical ends revolve more or less beneath the lower edges of the directing-shields.

Guide-fingers 24, preferably of a spring character, are projected outwardly and rearwardly from the inner faces of the directing-shields in front of the boxes 23, serving to assist in guiding the cornstalks to the conical lower ends of the husking and snapping rollers and preventing the stalks from engaging
95 with the said bearings or boxes 23. Spiral grooves 25 are made in the conical portions of the snapping and husking rollers 21 and 22, which grooves assist the rollers in gripping the cornstalks. The rollers by reason
100 of their downward and forward inclination are self-feeding and will draw the cornstalks

down and also back, so that the forward ends of the rollers will be kept free to receive the stalks of the next hill approached.

Spring-arms 26 are projected from the directing-shields over the curved portions of the snapping and husking rollers, and these arms prevent the stalks from slipping forwardly, compelling them to take a rearward course. The upper trunnion of the roller 22 is provided with a pinion 27, which meshes with a pinion 28 on the corresponding trunnion of the roller 21. The pinion 28 is provided with an attached beveled pinion 29, and this beveled pinion meshes with a beveled gear 30, fast upon a shaft 31, journaled at the upper or rear portion of the auxiliary frame, the said shaft being provided, preferably at its right-hand end, with a sprocket-wheel 32. The directing-shields at their rear ends are over the rollers 21 and 22, and in fact the space between the rollers will be about centrally between the directing-shields.

A feed-belt 33 is provided for each shield, and each feed-belt is provided with a series of horizontal fingers 34. Each feed-belt passes along the front or inner face of a shield and likewise along the back portion of the shield. Each of the feed-belts is passed over a sprocket-wheel 35, which extends into an opening 35^a near the forward end of the shield, the wheels being supported by suitable brackets 35^b, which are usually adjustable upon the frame. The feed-belts likewise pass over sprocket-wheels 36, supported by the frame of the machine, and these sprocket-wheels extend through openings 36^a, formed in the upper portions of the shields, as shown in Figs. 1, 2, and 4. Finally, the feed-belts at their rear stretches pass over sprocket-wheels 37, secured upon shafts 38, which are mounted in brackets 39, one bracket being supported by the left-hand side beam 10 and the other bracket by the intermediate beam 14. The shaft of each sprocket-wheel 37 is provided at its lower end with a beveled pinion 40, and the said pinions mesh with gears 42, and these gears are secured upon shafts 43, journaled one in the left-hand side beam 10 and the framing of the left-hand shield, while the other shaft 43 is journaled in the framing of the right-hand shield and in the intermediate beam 14 at the right-hand side of the frame. Each shaft 43 is provided with an attached sprocket-wheel 44.

At each side of the snapping and husking rollers a trough 45 is supported. These troughs are usually given an upward and rearward inclination, being supported at their rear ends by the auxiliary or upper frame, and the troughs are adapted to receive the ears of corn after the ears have been separated from the stalks and husked, the husked ears dropping either into the right-hand or into the left-hand trough. The ears are prevented from leaving a trough at the forward end by placing partitions 46 near said ends; but these partitions are provided with open-

ings for the passage of the conveyer-chains 47. These chains are endless and extend longitudinally along the upper and under faces of the bottom of the troughs and are carried over the sprocket-wheels 44 on the shafts 43, while the rear portions of the conveyer-chains are carried over sprocket-wheels 48, secured upon a shaft 49, the said shaft being journaled in suitable bearings attached to brackets 50, the brackets being secured to the rear faces of the uprights 17 of the auxiliary frame.

At the left-hand end of the shaft 49 a large sprocket-wheel 51 is secured, which sprocket-wheel is connected by a chain belt 52 with a second sprocket-wheel 53, secured upon the left-hand end of a short shaft 54, which is journaled in suitable bearings at the rear end of the main frame. The right-hand end of this short shaft 54 has a beveled pinion 55 attached thereto, meshing with a beveled gear 56, secured upon a shaft 57, which shaft is journaled in suitable bearings longitudinally of the rear portion of the main frame.

The lower end of an elevator-frame 58 is placed over the longitudinal shaft 57, and the ears of corn are delivered from the troughs 45, through the medium of the conveyer-belts 47, into the lower portion of the elevator, which is so constructed as to form a hopper 59, as shown in Fig. 5. The rear end of the elevator is supported by suitable standards 60, and at the upper end of the elevator a sprocket-wheel 61 is held to revolve, the sprocket-wheel being in line with the upper face of the bottom of the said elevator, and a conveyer-chain 62 is passed over the sprocket-wheel 61 and over a second sprocket-wheel 61^a, secured upon the longitudinal shaft 57, as shown in Fig. 1.

The conveyer-belts for the troughs and the conveyer-belt for the elevator are provided with fingers secured to and projecting from sundry of their links to facilitate the carriage of the ears of corn.

The frame is provided with two axles, a right-hand axle 63 and a left-hand axle 64. The left-hand supporting-wheel 65, carried by the left-hand axle, is at the outside of the frame and within the guard 66. The right-hand supporting-wheel 67, which is likewise the driving-wheel, is secured upon the right-hand axle 63, between the right-hand beam 10 of the frame and the longitudinal beam 14, as shown in Fig. 3. The combined driving and supporting wheel 67 is provided with an attached sprocket-wheel 68, connected by a chain belt 69 with a counter-shaft 70, journaled transversely at the rear right-hand side of the main frame, the belt 69 passing over a sprocket-wheel 71 on the said shaft. A larger sprocket-wheel 72 is secured upon the inner end of the counter-shaft 70, and over this sprocket-wheel a chain belt 73 is passed, being likewise carried over the sprocket-wheel 32 upon the upper rear shaft 31, as shown in Fig. 1. The forward stretch of the belt 73 is passed to an engagement with an idler 74, adjustable on

the frame, as is also shown in Fig. 2, and to an engagement with a sprocket-wheel 75 on the right-hand side of the counter-shaft 49, carrying the conveyer-belts of the troughs. Thus it will be observed that all of the parts receive motion from the combined driving and supporting wheel, motion being communicated first to the rear counter-shaft 70 at the right-hand side of the machine, thence to the shaft 49, driving the conveyer-belts of the troughs, and at the same time to the upper counter-shaft 31, which drives the snapping and the husking rollers. Motion is conveyed from the counter-shaft operating the trough-conveyers to the elevator-conveyer through the medium of the rear shafts 54 and 57, heretofore described. Finally the conveyer-belts of the troughs communicate movement to the forward shafts 43, and they in their turn communicate movement to the driving-sprockets 38 for the feed-belts 33.

The driver's seat 76 is supported at the right-hand side of the main frame of the machine, as shown in Figs. 2, 3, and 4.

In operation the standing corn is received between the shields 16 and directed by the said shields so as to pass between the snapping and husking rollers, the feed-belts assisting the corn in its passage to the said rollers and giving the corn a rearward inclination before it meets the rollers. The conical lower ends of the rollers increase the space at the front and permit an easy entrance of the cornstalks to the space between the rollers, and the inclined position of the said rollers serves to draw the cornstalks downward and rearward, snapping the ears of corn from the stalks, and the husks of the ears, being caught between the rollers, will be stripped from the ears, and the cleaned ears will be delivered by the rollers to either the right or the left hand trough and from thence to an elevator, from which the corn may be dropped into a near-by wagon.

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

1. In a corn harvester and husker, the combination with a supporting-frame, and inclined snapping and husking rollers mounted in the frame in rear of the forward ends of the longitudinal beams, of shields in the form of plates set edgewise secured to the forward ends of the said beams and inclined upwardly and rearwardly and toward each other over the forward ends of the rollers, spring-arms secured to the inner faces of the shields and extending over the forward ends of the rollers, and feed-belts traveling along the inner faces of the shields, substantially as described.

2. In a corn harvester and husker, the combination with a supporting-frame, of inclined snapping and husking rollers mounted in the frame and having spirally-grooved forward ends, converging shields extending over the

forward ends of the rollers, and provided with guide-fingers and spring-arms on their inner faces, feed-belts traveling along the inner faces of the shields, a trough on each side of the feed-rollers, conveyer-belts in the bottoms of the troughs, a hopper into which the troughs empty and an elevator leading from the hopper, substantially as described.

3. In a corn harvester and husker, the combination, with a wheel-supported frame, one of the wheels of the frame being a driving-wheel, directing-shields extending from the front of the machine rearwardly and upwardly over the body portion of the machine, the shields diverging at their forward ends and converging at their rear ends, and downwardly and forwardly inclined snapping and husking rollers held to revolve in near relation to each other, the lower ends of the snapping and husking rollers being conical, the said snapping and husking rollers being provided with spiral grooves near their conical portions, said rollers being located one under the rear end of each of the said shields, of spring-arms carried over the said rollers at angles to one another and extending from the shields, feed-belts held to travel longitudinally at the inner or opposing faces of the shields, spurs carried by the said feed-belts, a conveyer-trough located at each side of the said snapping and husking rollers and below the same, and an elevator into which the conveyer-troughs empty, and means, substantially as described, for driving the snapping and husking rollers the feed-belts and the conveyer-belts for the troughs and the elevator, from the combined driving and supporting wheel, for the purpose set forth.

4. In a corn harvester and husker, the combination, with directing-shields having their forward ends diverging and their rear ends converging, feed-belts held to travel longitudinally along the inner or opposing faces of the said shields, and snapping and husking rollers placed in close relation and having a downward and forward inclination, their lower portions being beneath the said shields, their lower ends being conical and the said rollers being provided with gripping-grooves near their conical portions and spring-arms placed at angles to one another, extending from the shields and being carried across the space between the said rollers, of a trough located at each side of the snapping and husking rollers, an elevator into which the said troughs empty, the elevator being provided with a conveying-belt and each of the troughs being also provided with a conveying-belt, supporting-wheels for the machine, one of which is a driving-wheel as well, a shaft driven from the said driving-wheel, a driving-shaft for the conveyer-belts for the troughs, driven from the shaft operated from the driving-wheel, a counter-shaft arranged to drive the husking-rollers, being driven from the shaft operated from the driving and

supporting wheel of the machine, driving-shafts for the elevator conveying-belt, a driving connection between said shafts and a line-shaft operated from the said shaft driven
5 from the supporting and driving wheel, a line-shaft driven by the conveying-belts of the troughs, and a driving connection between this line-shaft and the feed-belts, for the purpose specified.

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