No. 632,269. Patented Sept. 5, 1899.

A. N. KNISELY.

CORN TOPPER.

(Application filed July 15, 1898.)

(No Model.) 4 Sheets—Sheet 1.

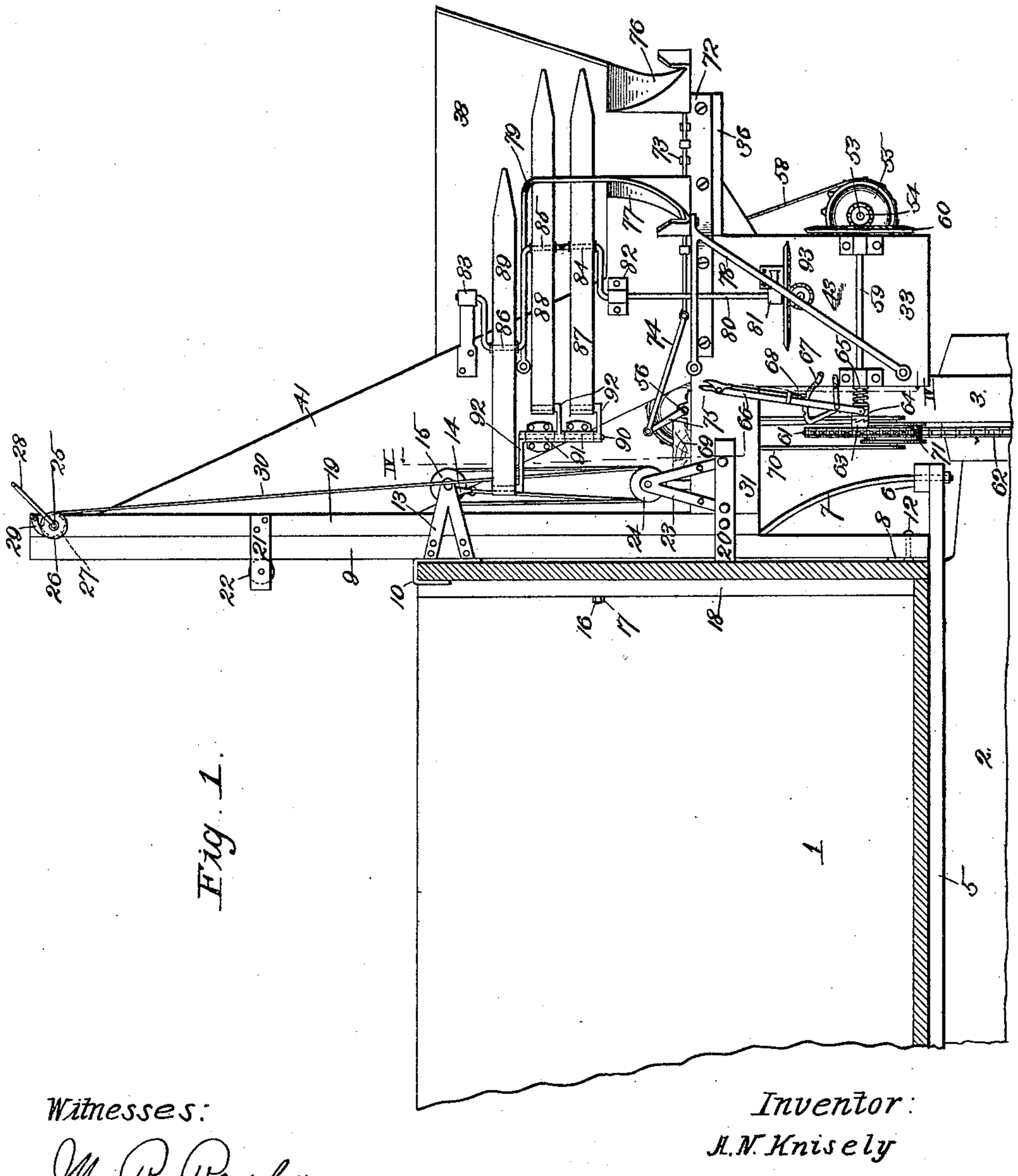

Fig. 1.

Witnesses:
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F. S. Thrasher.

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(No Model.) 4 Sheets—Sheet 2.

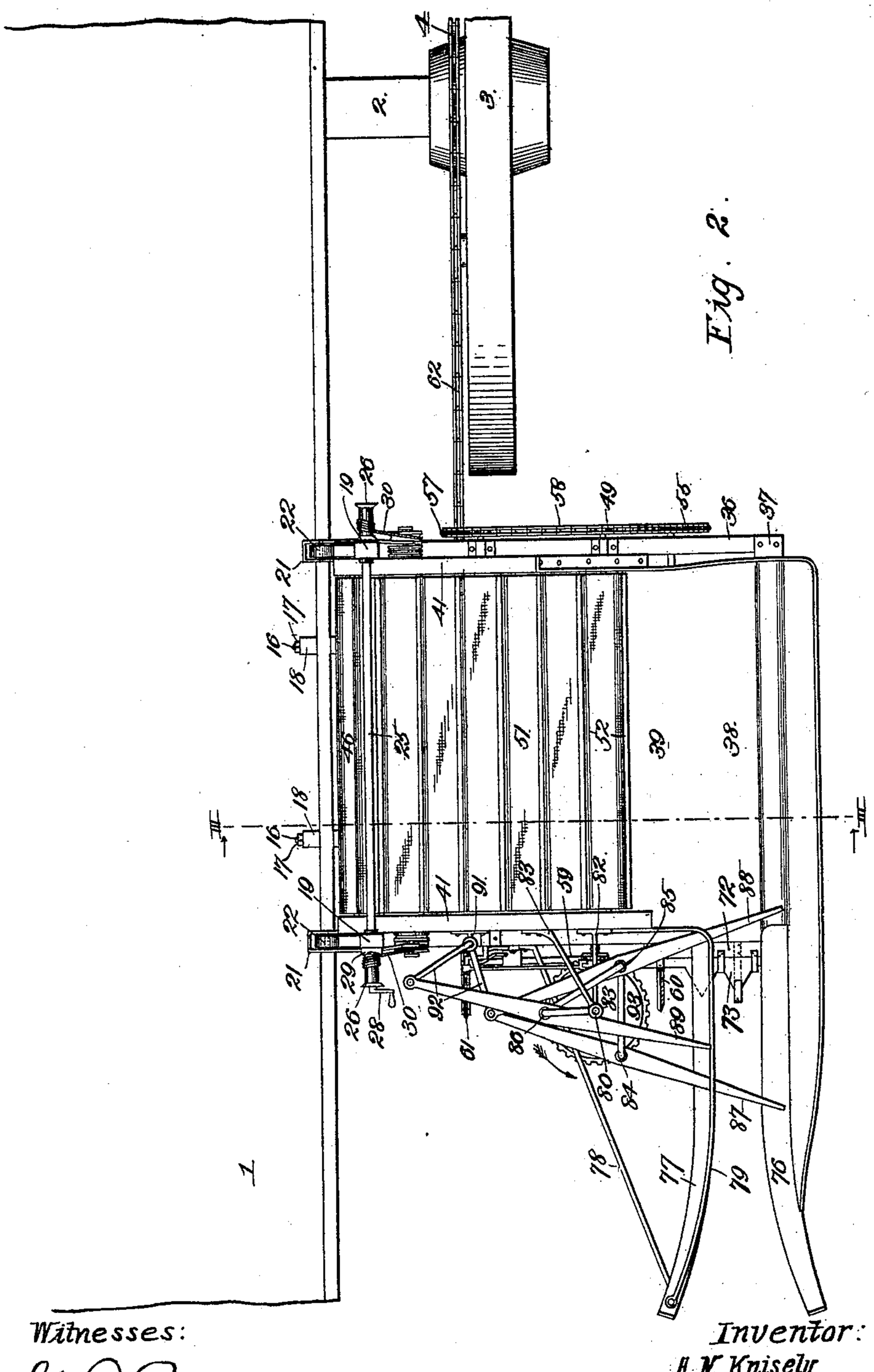

Fig. 2.

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(No Model.) 4 Sheets—Sheet 3.

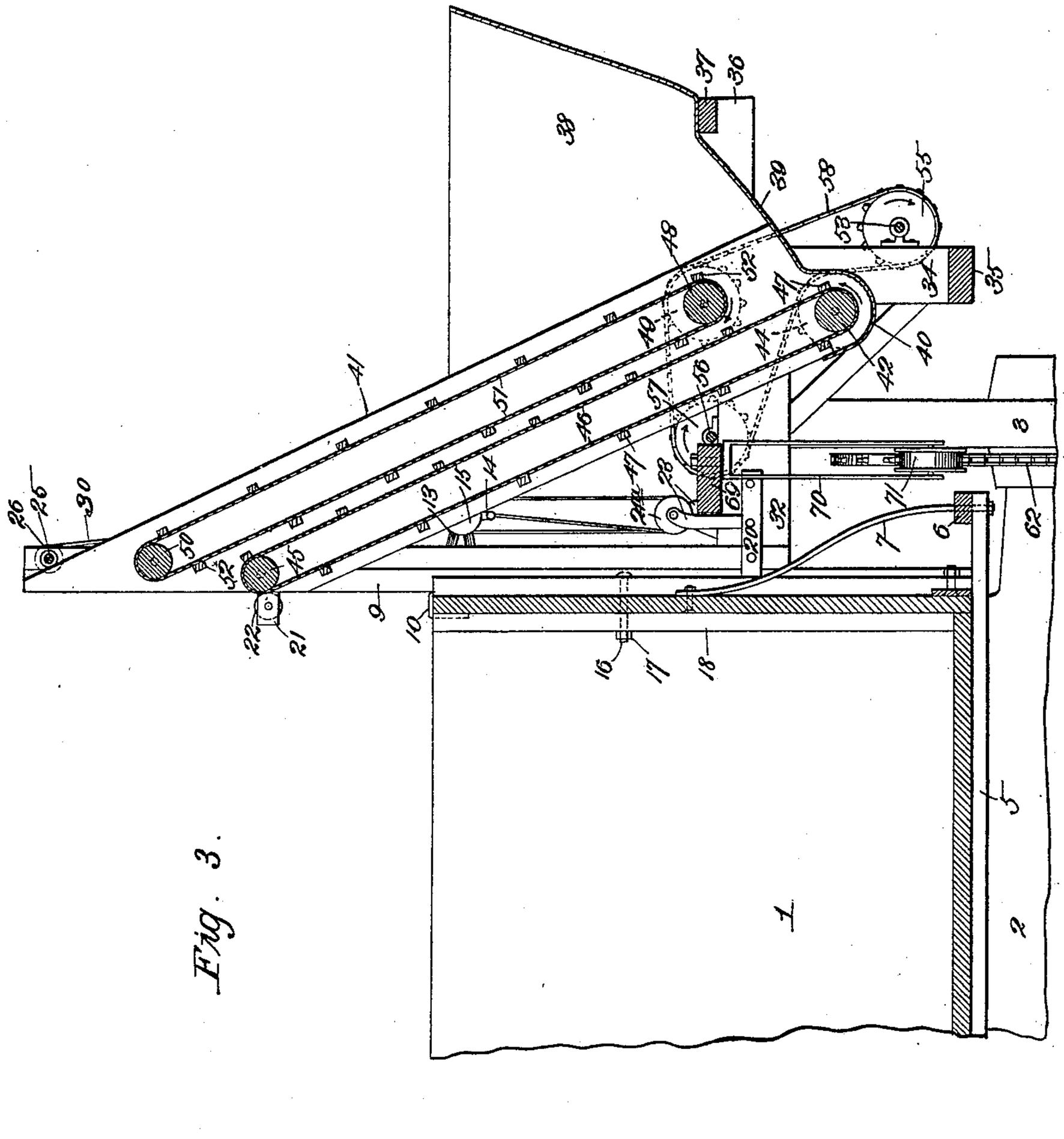

Fig. 3.

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(No Model.) 4 Sheets—Sheet 4.

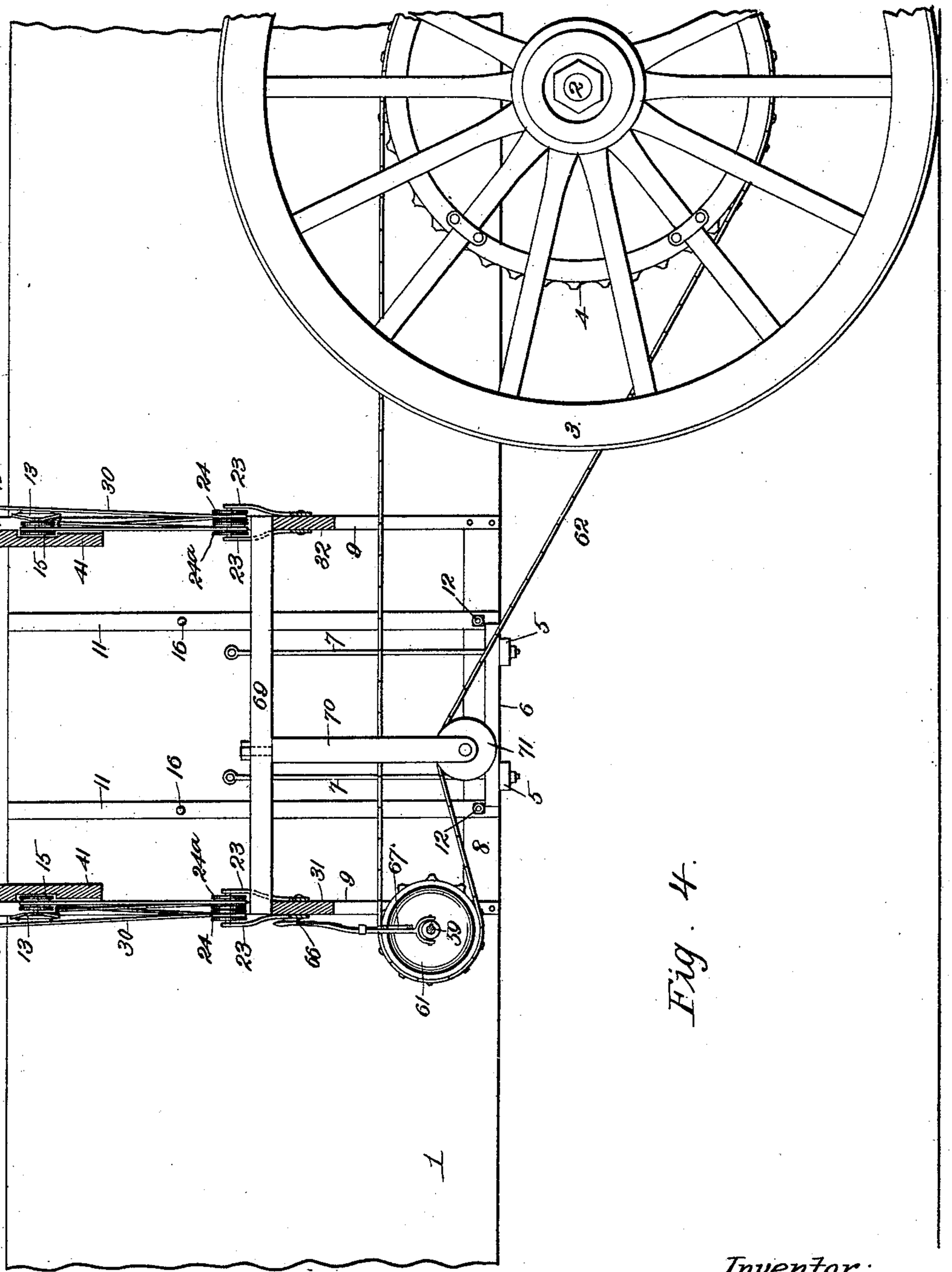

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

ARTHUR N. KNISELY, OF INDUSTRY, KANSAS.

CORN-TOPPER.

SPECIFICATION forming part of Letters Patent No. 632,269, dated September 5, 1899.

Application filed July 15, 1898. Serial No. 685,978. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR N. KNISELY, of Industry, Clay county, Kansas, have invented certain new and useful Improvements in Corn-Toppers, of which the following is a specification.

My invention relates to Kafir-corn toppers; and it consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

The object of the invention is to produce a machine of the character referred to which is positive and reliable, which can be easily and quickly secured in position upon a wagon or removed therefrom, and which is of simple, strong, and durable construction.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a view showing a wagon-box in cross-section and the front end of my topper attachment. Fig. 2 is a top plan view. Fig. 3 is a section taken on the line III III of Fig. 2. Fig. 4 is a section taken on the line IV IV of Fig. 1.

In the said drawings, 1 designates a wagon-box; 2, its rear axle; 3, one of the rear or driving wheels, and 4 a sprocket-wheel secured thereto.

5 designates a pair of cross-bars at the bottom of the box, 6 the connecting-bar therefor, and 7 curved brace-bars uniting bars 5 and 6 and secured to the side of the box.

The skeleton frame consists of a horizontal plate 8, parallel uprights 9, secured to the ends of said plate and provided with downwardly-disposed hooks 10, adapted to engage the upper edge of the wagon-box while the plate 8 rests upon the cross-bars 5. 11 designates parallel uprights arranged between uprights 9 and secured by bolts 12 to plate 8. 13 designates brackets projecting outward from uprights 9 and provided with depending arms 14 and grooved pulleys 15. 16 designates bolts extending through uprights 11 and the wagon-box and engaged by clamping-nuts 17, said bolts by preference also extending through vertical reinforce-strips 18, secured to the inner side of the wagon-box. To remove said skeleton frame, it is necessary first to remove bolts 16 and then lift the frame, so as to disengage the hooks 10 from the upper edge of the box.

A vertically-adjustable frame is constructed as follows:

19 designates a pair of uprights which fit snugly against the outer edges of uprights 9 and are provided at their lower ends with rectangular guide loops or clips 20, embracing said uprights 9.

21 designates a pair of clips or loops, also carried by uprights 19 and embracing snugly opposite sides of uprights 9, and said clips or loops carry antifriction-rollers 22, bearing against the inner edges of uprights 9.

23 designates brackets fixed with relation to clips 20, and 24 24^a grooved pulleys journaled upon and between said brackets.

25 designates a shaft journaled in the upper ends of uprights 19, and 26 drums upon the outer ends of the same, and one of said drums is provided with a ratchet-wheel 27. 28 designates a crank-handle of said shaft in order that the drums may be conveniently rotated, and 29 a gravity-dog carried by one of the uprights 19 and engaging the ratchet-wheel 27.

30 designates a pair of cables secured at their upper ends to drums 27 and at their opposite ends to the arms 14 of brackets 13. Intermediate of said points said cables pass down and around pulleys 24, up and over pulleys 15, and down and around pulleys 24^a, so as to constitute a block-and-tackle mechanism, whereby the adjustable frame may be easily raised and lowered.

31 and 32 designate front and rear horizontal bars projecting outward from the lower ends of uprights 19, secured, preferably, between the arms of clips or loops 20, and 33 and 34 arms depending vertically therefrom and connected at their lower ends by a horizontal bar 35.

36 designates bars projecting outward and forming practically a continuation of bars 31 and 32, and 37 a bar connecting their outer ends and providing a support for the hopper 38, preferably of sheet metal. The bottom of the hopper slopes downward and inward of the wagon and at its lower end is approxi-

mately semicircular in cross-section, as shown at 40.

41 designates a pair of bars which form the sides of the elevator mechanism, to be presently described. They are arranged between bars 19 at their upper ends and within the hopper at their lower ends. 42 designates a roller journaled in said elevator-frame concentrically of the U-shaped trough portion 40 of the hopper, 43 a gear-pinion mounted upon the front end of the shaft of said roller externally of said frame, and 44 a sprocket-wheel upon said shaft rearward of said frame. 45 designates a roller journaled in said frame some distance above the upper edge of the wagon-box and about in the same vertical plane as uprights 9, and 46 an endless apron connecting rollers 42 45, provided with cross-strips 47 to render the operation of the belt positive and reliable. 48 designates a roller journaled in the frame within the hopper and a short distance above roller 42, and 49 a sprocket-wheel carried by the shaft of said roller in the same vertical plane as sprocket-wheel 44. 50 designates a roller journaled almost vertically above roller 45 in the upper end of said frame, and 51 an apron connecting the same, provided with cross-strips 52.

53 designates a shaft journaled in brackets carried by depending arms 33 34, 54 a cog-pinion upon its front end, and 55 a sprocket-wheel upon its rear end and in the same plane as sprocket-wheels 44 and 49.

56 designates a shaft journaled in bearings carried by bars 31 32, and 57 a sprocket-wheel upon its rear end, connected to sprocket-wheels 44, 49, and 55 by an endless belt 58.

59 designates a transverse shaft journaled in bearings at the front side of bar 33, and 60 a large gear-wheel mounted thereon and engaging pinion 54.

61 designates a sprocket-wheel upon the inner end of shaft 59 and connected to the drive-sprocket 4 by means of an endless chain 62, and said sprocket-wheel is provided with a clutch-section 63 for engagement with a companion clutch 64, mounted to slide but not rotate upon shaft 59.

65 designates a spring which tends to force clutch-section 64 into engagement with clutch-section 63.

A lever 66 is pivoted upon a sector 67 and engages in the customary manner clutch-section 64. It is also provided with the usual spring-actuated dog 68 for engagement with said sector in order to lock the clutch-sections together or apart.

69 designates a bar which is bolted or otherwise secured to bars 31 32 of the adjustable frame, and 70 an inverted-U-shaped bracket depending therefrom and provided at its lower end with a roller 71 for engaging and tensioning chain 62 with the least possible friction. 72 designates the sickle-frame, and 73 the sickle or cutter bar for reciprocation in said frame in the customary manner, and said sickle-bar is connected by the link 74 with the crank-arm 75, mounted upon the front end of shaft 56, in order that the movement of the wagon across the field may cause the rapid reciprocation of the sickle or cutter bar, provided the clutches 63 64 be engaged. When said clutches are not in engagement, the movement of the wagon fails to operate said cutter-bar and also the mechanism to be presently described.

76 and 77 designate forwardly-projecting and flaring arms in the plane and outward and inward of the cutting mechanism, and the passage between said arms communicates with the interior of the hopper, because the latter is open at its front end. The inner arm 77 is braced by means of the angle-bracket 78 below and the angle-bracket 79 above.

80 designates a vertical shaft journaled in bearings 81, 82, and 83. Said shaft between bearings 82 and 83, and therefore above the plane of guide-arms 76 77, is provided with three equidistant cranks 84, 85, and 86, and mounted upon said cranks, respectively, are push-arms 87, 88, and 89.

90 designates a vertical shaft journaled in brackets 91, secured to the elevator-frame, and 92 crank-arms projecting therefrom and pivotally connected to the rear ends of push-arms 87, 88, and 89.

Motion is imparted to the crank-shaft 80 from the shaft of roller 42 through the medium of pinion 43, meshing with the gear-wheel 93 upon the lower end of shaft 80. The rotation of shaft 80 in the direction indicated by the arrow, Fig. 2, causes the push-arms successively to project across the space between arms 76 and 77 and press the corn-stalks firmly and reliably against the cutting mechanism and as the cutting operation takes place force the severed heads or tops of the corn rearward into the hopper and upon the inclined bottom 39 thereof, from which position it rolls down into the trough 40 and is first caught by the apron 46 and then by the apron 51 and discharged by said aprons into the wagon, as will be readily understood by reference to Fig. 3.

To accommodate corn of different height, the crank 28 is grasped and the cables 30 wound upon or unwound from drums 26, as may be necessary. This action raises or lowers the adjustable frame, and consequently all of the operative parts of the attachment. The chain 62 in practice is sufficiently loose to accommodate the necessary vertical adjustment of the sliding frame; or, if necessary, I may employ a pivoted tension-roller, which will yield to accommodate the movement of the frame and at the same time hold the chain at the required tension.

A recapitulation of the operation is not deemed necessary, as the functions of the various parts have been described in detail.

From the above description it will be apparent that I have produced a Kafir-corn topper which embodies the features of advantage enumerated in the statement of inven-

tion and which may be altered more or less within prescribed limits without departing from the spirit and scope of the invention.

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

In a Kafir-corn topper, a wagon, a skeleton frame, consisting of vertical bars 9, provided with hooks 10 engaging the upper edge of the wagon-box, and with a connecting-plate 8 at their lower ends, a pair of vertical bars 11 bolted to plate 8, and to the wagon-box, brackets 13 projecting horizontally outward from bars 9 and provided with depending arms 14 and grooved pulleys 15, and a vertically-adjustable frame comprising a pair of uprights 19 provided with guide-loops 20 embracing bars 9, and clips 21 embracing the opposite sides of bars 9, and provided with rollers 22 engaging the inner edges of said bars 9, brackets 23 fixed with relation to guide-loops 20 and grooved pulleys 24, 24[a] journaled upon and between said brackets, a shaft 25 journaled in uprights 19 and provided with drums, one of them having a ratchet-wheel 27, and a crank-handle, a gravity-dog carried by one of the uprights engaging the ratchet-wheel, a pair of cables 30 secured at their upper ends to said drums and at their opposite ends to the arms 14 of bracktes 13, said cables being guided around pulleys 24, 15 and 24[a], a front bar 31 and a rear bar 32 projecting outward from the lower ends of uprights 19 and provided with depending arms 33 and 34, having a connecting-bar 35, bars 36 projecting from bars 31 and 32, a connecting-bar 37 for bars 36, and a hopper 38 supported upon bar 37, in combination with mechanism for cutting the corn and depositing it in said hopper and elevating it from the latter and depositing it in the wagon-box, substantially as described.

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

ARTHUR N. KNISELY.

Witnesses:

JACOB DAUGHMAN,

M. H. PRICE.