

No. 721,278.

PATENTED FEB. 24, 1903.

M. BONNELL.

KAFIR CORN HARVESTER.

APPLICATION FILED APR. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. A.

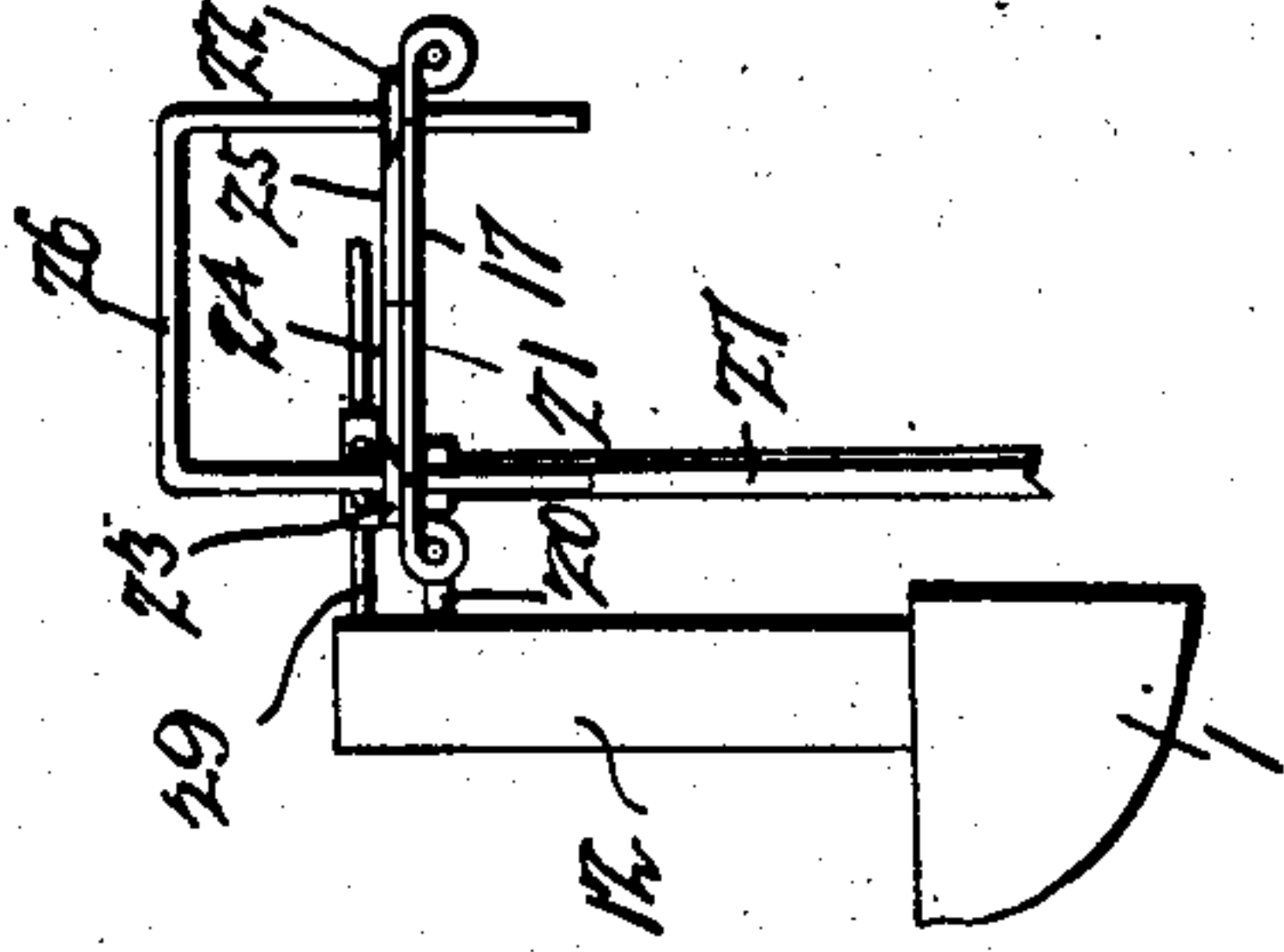
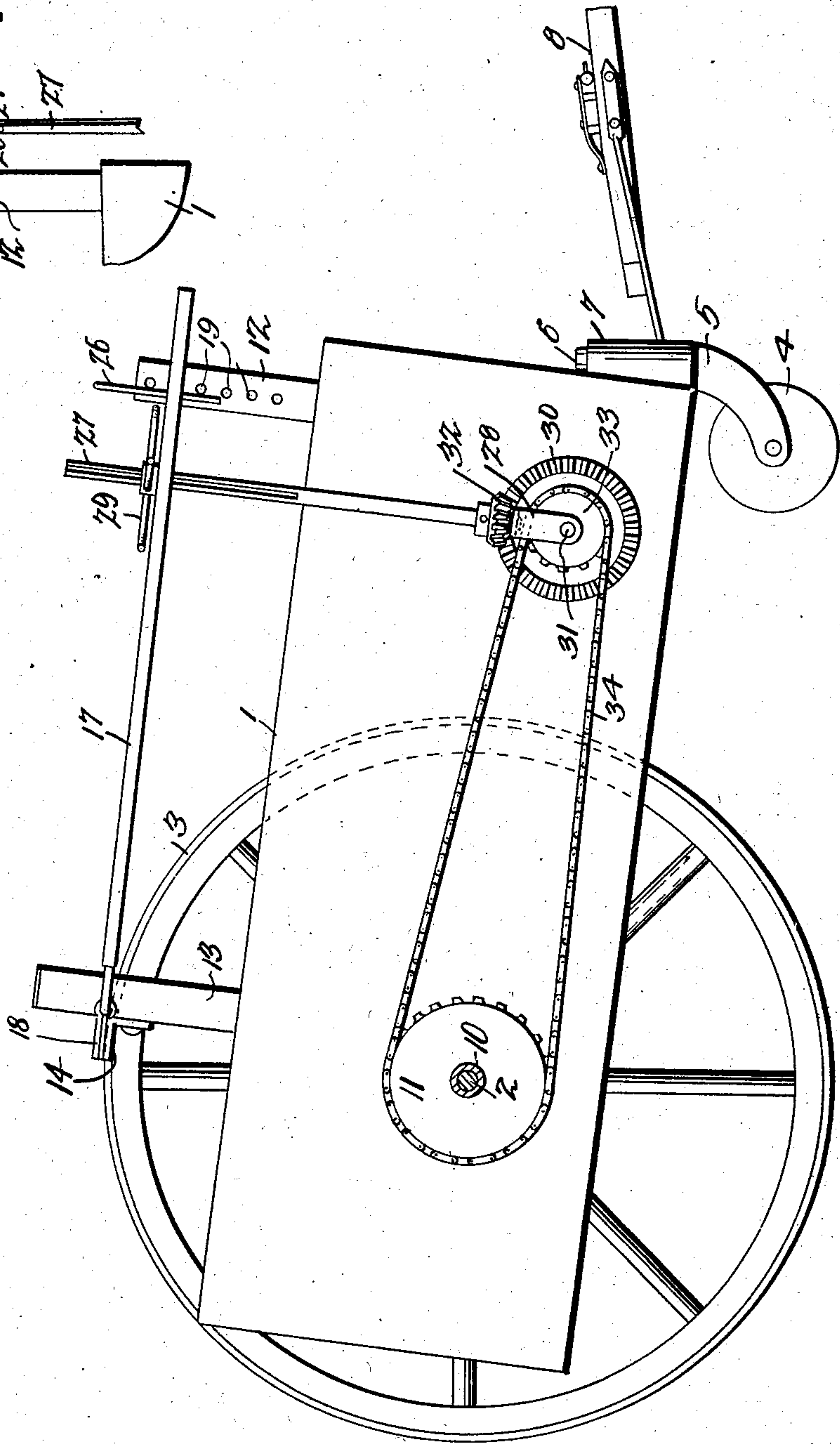


Fig. 1.



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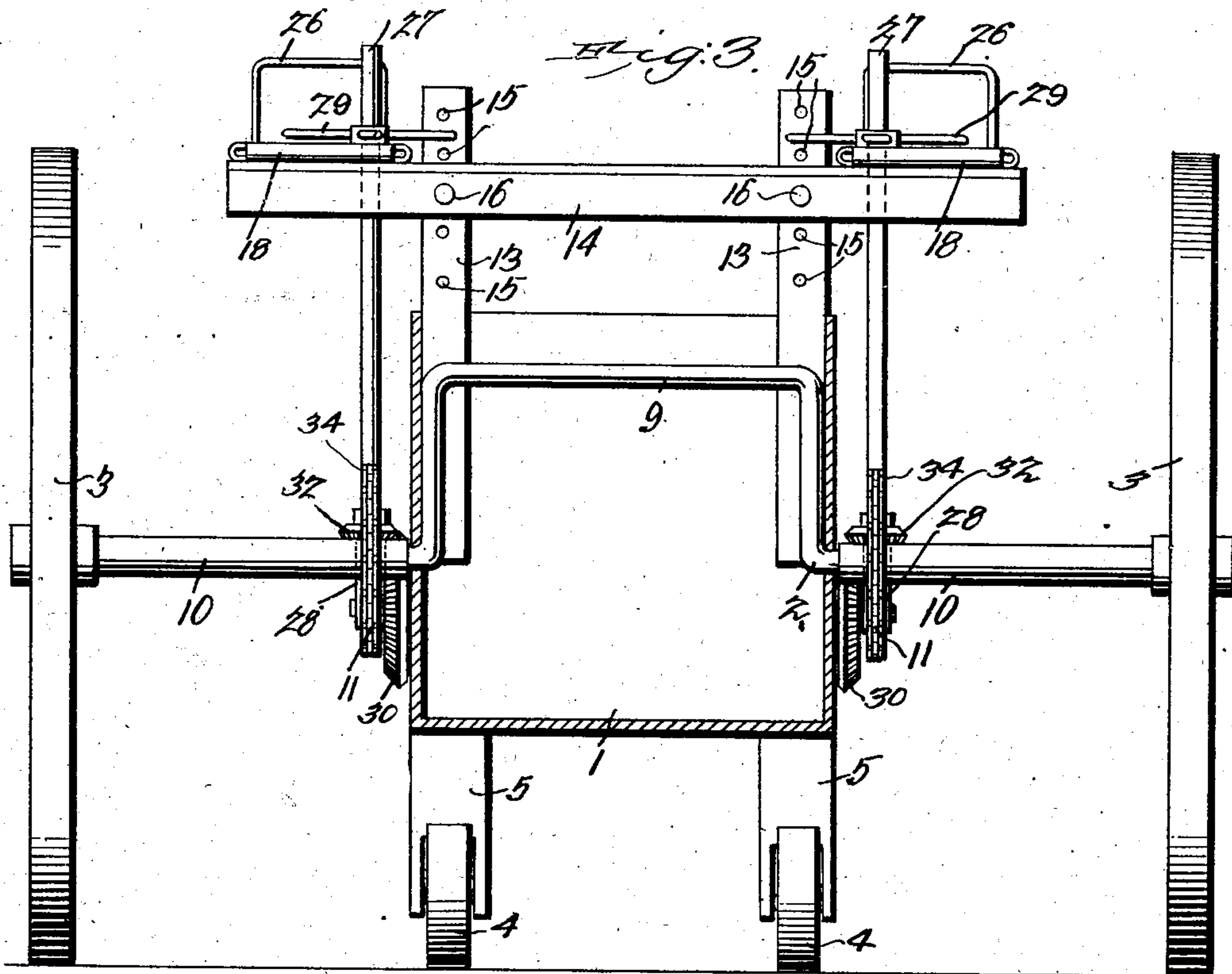
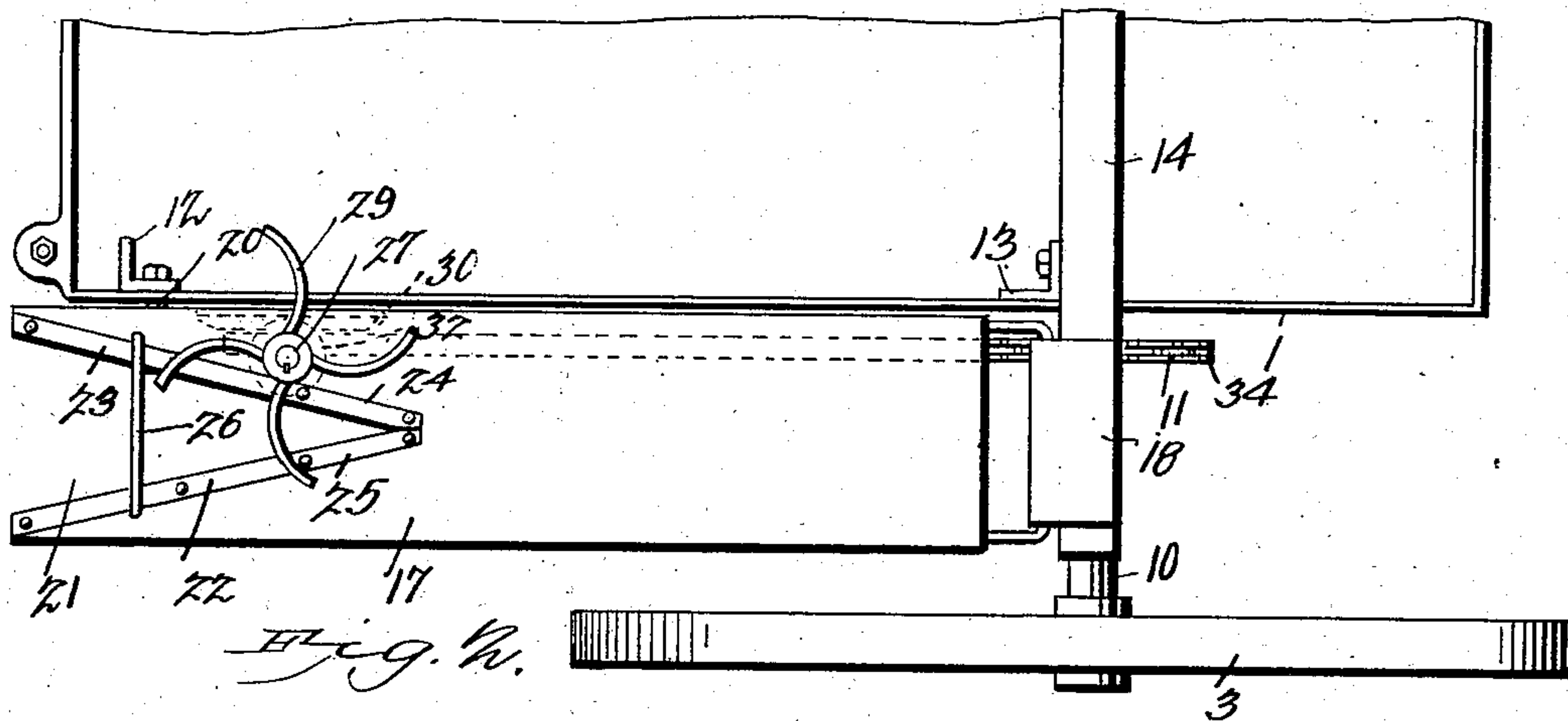
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

MARK BONNELL, OF PRINCETON, KANSAS.

KAFIR-CORN HARVESTER.

SPECIFICATION forming part of Letters Patent No. 721,278, dated February 24, 1903.

Application filed April 18, 1902. Serial No. 103,581. (No model.)

To all whom it may concern:

Be it known that I, MARK BONNELL, a citizen of the United States, residing at Princeton, in the county of Franklin and State of Kansas, have invented a new and useful Kafir-Corn Harvester, of which the following is a specification.

My invention is an improved machine especially adapted for harvesting Kafir corn, but also adapted for heading other varieties of corn and grain which are planted in rows; and it consists in the peculiar construction and combination of devices hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a harvesting-machine embodying my improvements, the rear wheel being removed. Fig. 2 is a detail top plan view of the same. Fig. 3 is a vertical transverse sectional view of the same, taken on a plane intersecting the axle and looking forwardly. Fig. 4 is a detail front elevation showing the front end of one of the cutter-arms and the relative disposition of the cutters, arch-bar, and sweep-wheel thereon.

In the embodiment of my invention here shown the box or body 1 has its rear end supported by the axle 2, on which are the wheels 3, and its front end supported by wheels 4, which are carried by forks 5, having vertical spindles 6, journaled in bearings 7 on the front end of the box or body near the corners thereof. A tongue 8 is shown connected to the front end of the box or body, by means of which the machine may be drawn across a field and from one point to another. The axle 2 is preferably formed with an upstanding arch 9 between the sides of the box or body to clear the latter and the material which becomes deposited therein. The wheels 3 are provided with sleeves 10, that revolve on the outstanding portions of the axles that project laterally from the sides of the box or body, and at the inner ends of the said sleeve are sprocket-wheels 11, which rotate with the wheels 3 and the sleeves. Standards 12 are disposed at or near the front corners of the box or body, and standards 13 are disposed at the sides of the box or body at a suitable distance from its rear end. A yoke-bar 14 is disposed transversely above the box or body and is connected to the standards 13 by means

which will admit of the vertical adjustment of said yoke-bar. I here show the standards 13 as provided with adjusting-openings 15 and show bolts 16 to engage said openings and secure the yoke-bar to the standards at any desired vertical adjustment; but this construction may be modified, and I do not limit myself in this particular. The ends of the yoke-bar 14 project outwardly beyond the sides of the box or body, and to the said projecting ends of said bar 14 are pivotally connected the rear ends of a pair of forwardly-extending cutter-arms or header-arms 17. I here show hinge-joints 18 for thus connecting the rear ends of the said cutter or header arms to the yoke-bar; but any other suitable means may be employed for this purpose. The said header or cutter arms project laterally beyond the sides of the box or body and are connected at or near their front ends to the standards 12, which standards support their front ends. The front ends of the cutter or header arms are adjustable vertically on the standards 12, and any suitable means may be employed for thus connecting them thereto. I here show the standards 12 provided with adjusting-openings 19 and show supporting pins or bolts 20, which are extended through appropriate openings 19 and bear under the header or cutter arms to adjustably support the front ends of the latter.

From the foregoing it will be understood that the header or cutter arms are adjustable vertically both at their front and rear ends, so that the header or cutter arms may be raised or lowered as may be required to suit the height of the corn and may be disposed at any appropriate angle. Each of the header or cutter arms is provided at its front end with a gathering-way 21, the sides 22 23 of which converge rearwardly, and on the inner sides 23 of the said gathering-way are cutter knives or blades 24. Similar knives or blades 25 are on the outer sides 22 of the gathering-ways, said knives 24 25 converging rearwardly. The cutter or header arms are appropriately spaced apart, so that when the machine is in operation they run over two contiguous rows of the corn and parallel therewith, so that the heads of the corn are caught by the gathering-ways and presented to the action of the knives.

It is of importance in the harvesting of Kafir corn to cut off the cornstalks close up to the heads, so that the latter will have but short portions of stalks attached thereto, thus avoiding the necessity of handling quantities of the worthless stalks with the heads after the latter have been harvested. To adapt the machine to accomplish this result, each of the header or cutter arms is provided near its front end with a transversely-disposed arch-bar 26, said arch-bars extending above the header or cutter arms and across the gathering-ways thereof.

In the operation of my improved Kafir-corn-harvesting machine the header or cutter arms are adjusted at the required height to cause the cutters to pass close under the heads of the stalks, which are of the common height. The arch-bars 26 come in contact with the taller stalks and bend them forwardly as the machine advances, thereby lowering the heads of the taller stalks, the latter passing from under the arch-bars into the gathering-ways and being so disposed as to cause them to be grasped by the spokes of the sweep-wheels and by the coaction of the sweep-wheels and cutters to cut off close below the heads, thus securing, approximately, the same length of stalk with each head regardless of variations in the height of the stalks prior to harvesting.

My improved Kafir-corn-harvesting machine has been reduced to practice by the construction of a full-size operating-machine, and in a field test to which the same has been subjected its efficiency in thus cutting off the stalks close below the heads regardless of variations in the height of the stalks has been demonstrated.

On opposite sides of the box or body, near the front end thereof, are shafts 27, the lower ends of which are journaled in pivotally-mounted bearings 28, and the said shafts also have their bearings in the header or cutter arms and are disposed near the inner sides of the gathering-ways thereof and near the knives 24 25. The cutter or header arms when they are adjusted vertically move longitudinally with respect to the shafts 27, and the latter carry sweep-wheels 29, which are disposed on the upper sides of the header or cutter arms proximate thereto and immediately above the knives and are splined on the shafts 27, so that said sweep-wheels are adapted to move longitudinally of the said

shafts with the header or cutter arms and are rotated by the said shafts. Within the scope of my invention any suitable means may be employed for rotating the sweep-wheels. For this purpose I show beveled gears 30 mounted on stud-shafts 31, which project from the sides of the box or body, similar gears 32 on the shafts 27 and which engage said gears 30, and sprocket-wheels 33, which rotate with said gears 30 and are connected to the sprocket-wheels 11, that are turned by the wheels 30, by endless sprocket-chains 34. The sweep-wheels engage the front sides of the stalks, below the heads contact with the knives to cut the stalks, and said sweep-wheels by their revoluble motion throw the cut heads into the box or body.

It will be observed by reference to Fig. 1 of the drawings that the bottom of the box or body 1 is at some distance below the axle-shaft 2, thus adding greatly to the capacity of the same and enabling it to receive a large quantity of the grain.

Having thus described my invention, I claim—

1. In a heading-harvester for Kafir corn, an elevated header-arm hinged at its rear end and supported adjustably at its front end, in combination with a shaft journaled in a pivoted bearing and having an additional bearing in the said header-arm, a sweep-wheel mounted slidingly upon and revoluble with the said shaft and supported upon the header-arm, and means for rotating the said shaft.

2. In a heading-harvester for Kafir corn, an elevated header-arm hinged at its rear end and supported adjustably at its front end, said header-arm being provided with a gathering-way and obliquely-disposed cutters, in combination with a bending-arch spanning the gathering-way, a revoluble sweep-wheel supported upon and adjustable with the header-arm, and a shaft extending through the header-arm and having sliding connection with the sweep-wheel, and a pivoted bearing for the lower end of said shaft.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARK BONNELL.

Witnesses:

GEO. W. DAVIS,
GEO. A. FARNAM.