

Dec. 19, 1939.

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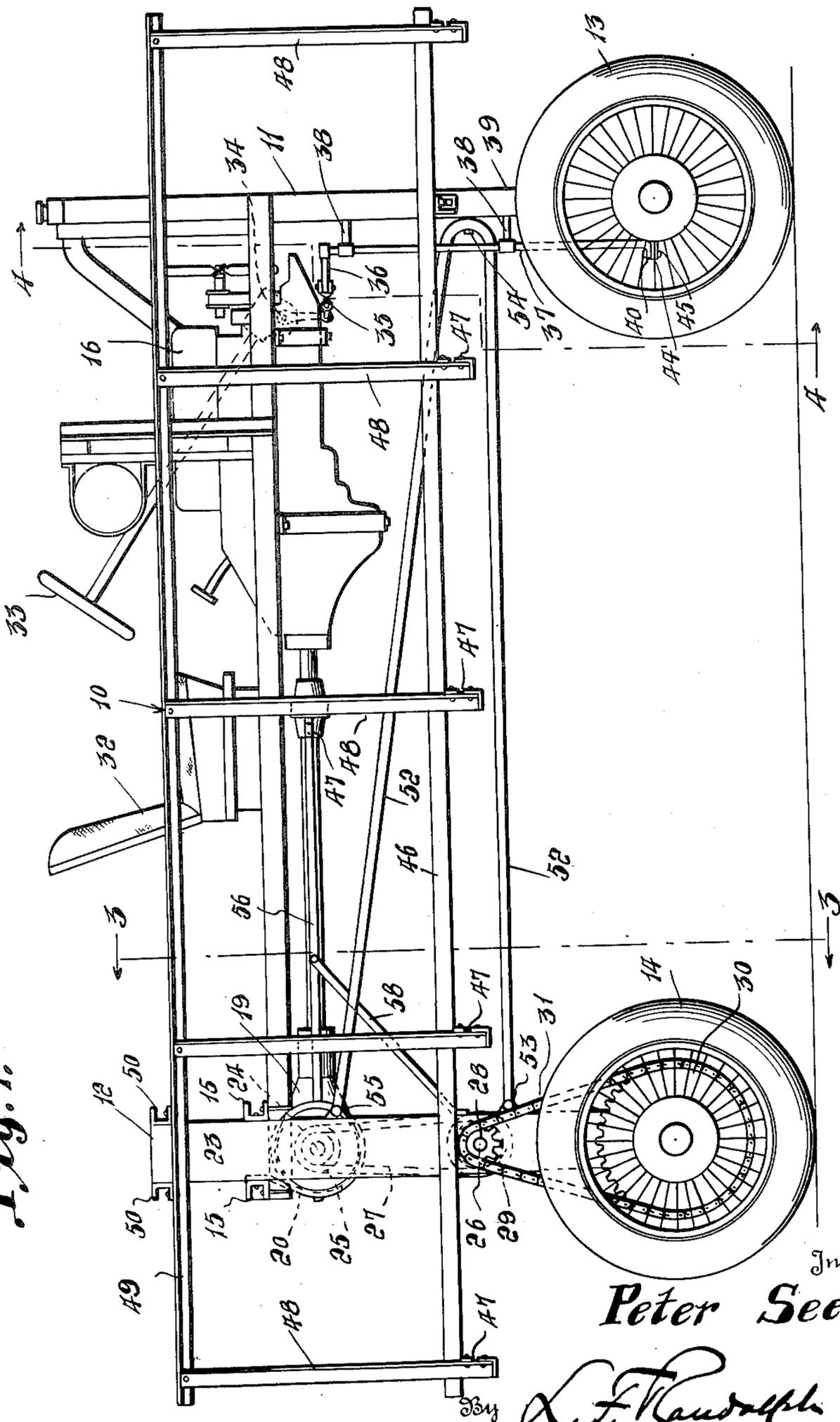
2,184,198

DETASSELING MACHINE

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4 Sheets-Sheet 1

Fig. 1.



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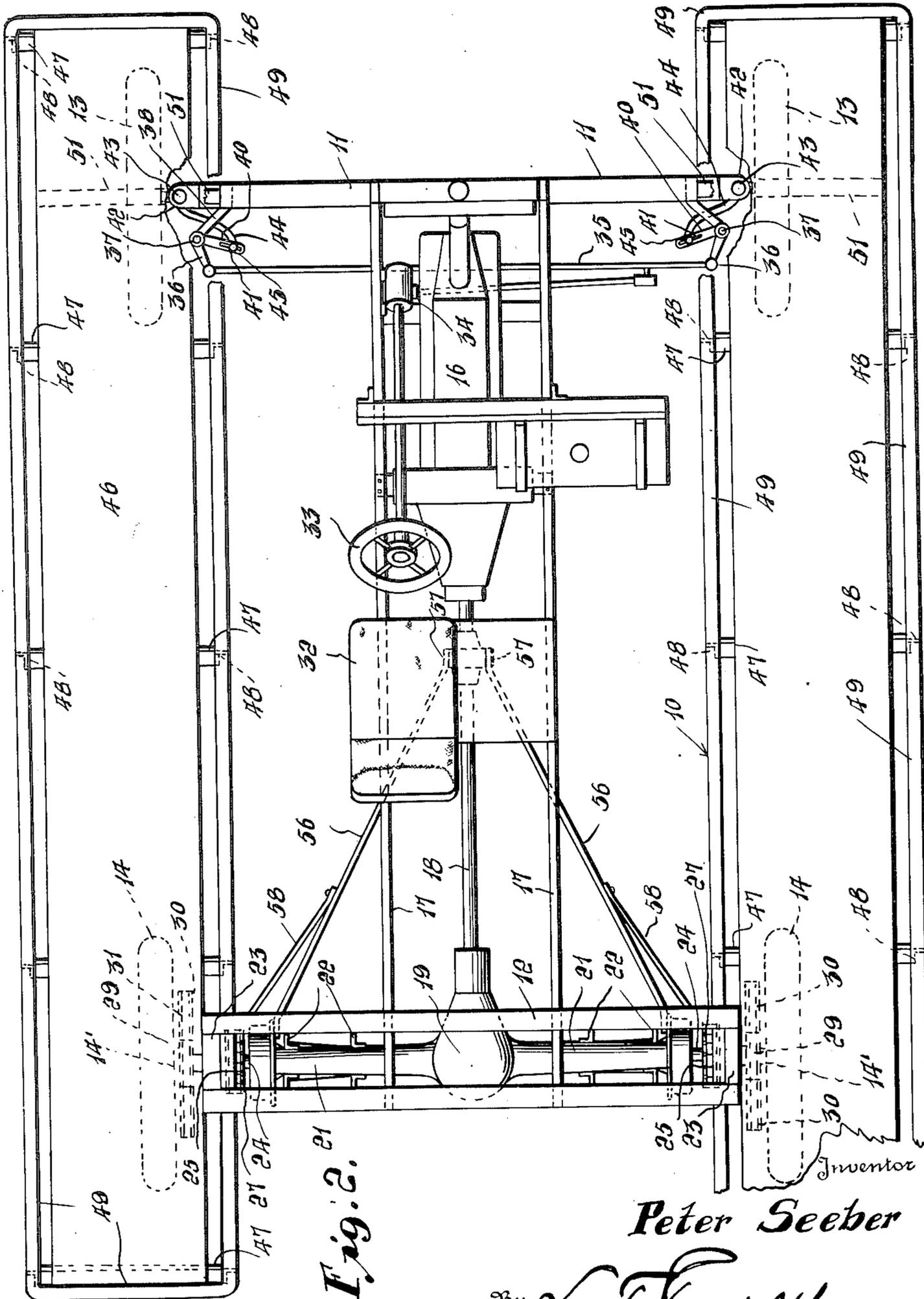


Fig. 2.

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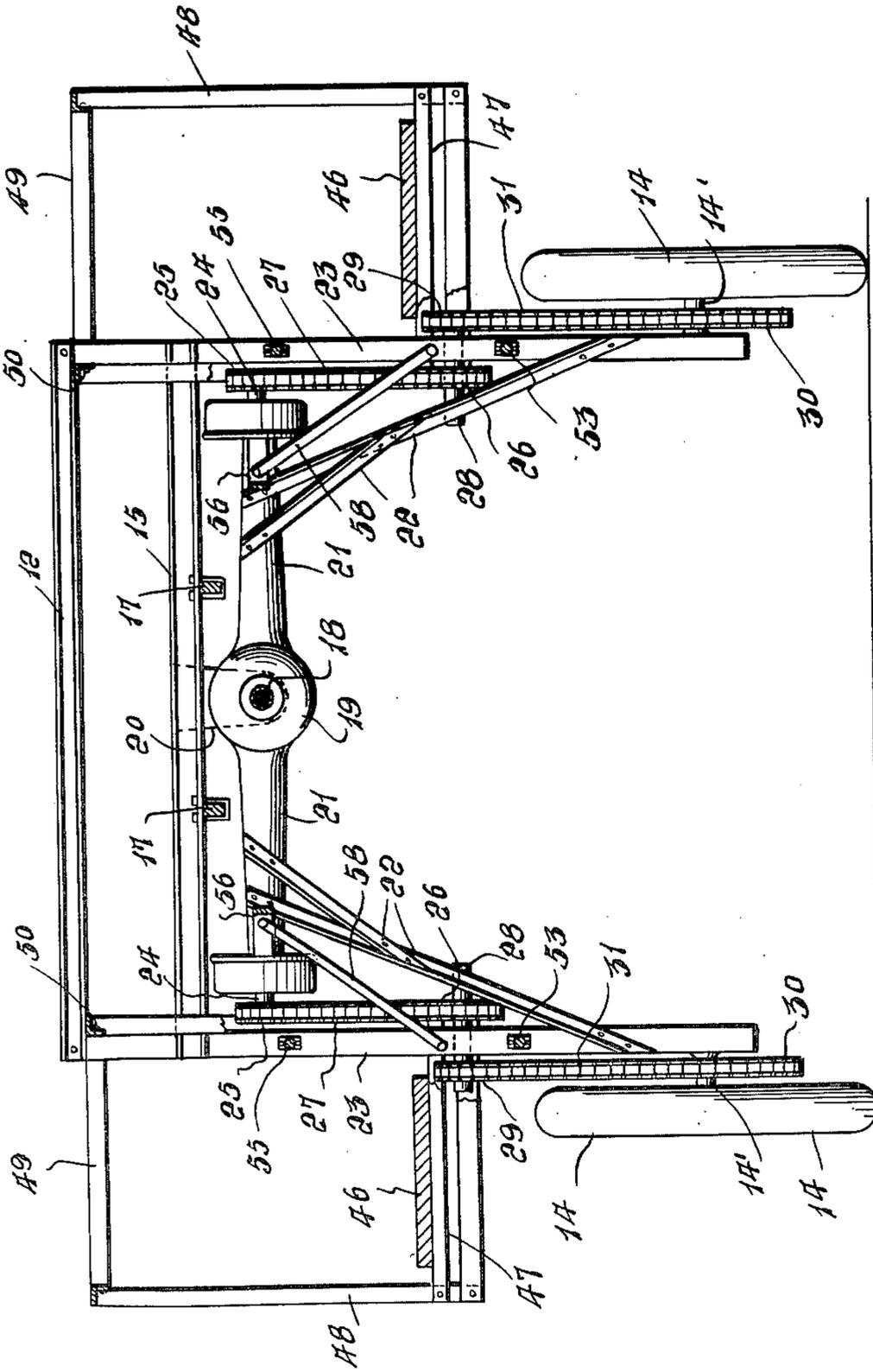
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Fig. 5.



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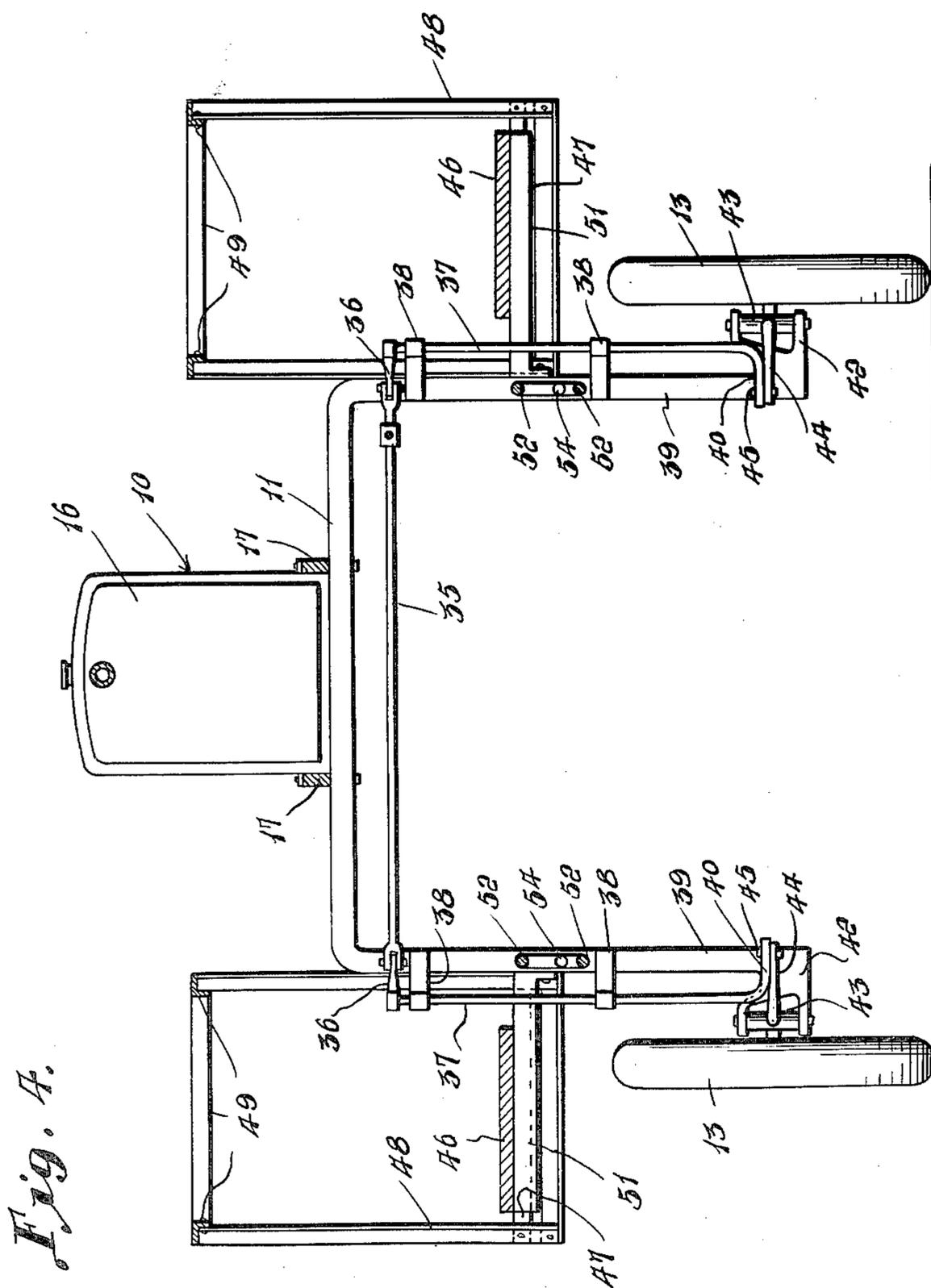


Fig. 4.

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UNITED STATES PATENT OFFICE

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DETASSELING MACHINE

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4 Claims. (Cl. 180—1)

This invention relates to an improved machine for detasseling corn.

An important object of the invention is to provide a machine constructed to move through a field of corn without damaging it for the purpose of carrying workmen engaged in detasseling the corn to develop hybrid seed corn.

Another object of the invention is to provide a machine capable of carrying sufficient workmen and constructed so that as many as four rows of corn can be simultaneously detasseled.

A further object of the invention is to provide a machine having raised platforms on either side disposed directly above the wheels of the device and adapted to move between rows of standing corn.

Still another object of the invention is to provide such a machine driven by an internal combustion engine mounted in an elevated position to pass over the standing corn and connected to the ground engaging wheels to operate the vehicle.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following specification of which the drawings form a part, and wherein:

Figure 1 is a side elevational view of the machine,

Figure 2 is a top plan view of the same.

Figure 3 is a cross sectional view on the line 3—3 of Figure 1, and

Figure 4 is a cross sectional view on the line 4—4 of Figure 2.

Referring more particularly to the drawings wherein like reference characters indicate like or corresponding parts throughout the different views, 10 designates generally the machine comprising a front arch 11 and a rear arch 12 the depending ends of which are connected to the front wheels 13 and the rear wheels 14 respectively. Arch 12 is provided with a cross brace 15 disposed beneath the horizontal portion thereof.

Mounted on the horizontal portion of arch 11 is an internal combustion engine 16. Engine 16 is supported by arch 11 and the beams 17 which extend lengthwise of machine 10 and which form a part of the frame structure of the automobile from which the driving means for machine 10 is obtained. Connected to the engine 16 is the drive shaft enclosed in the housing 18 and extending toward the rear of the machine 10 to connect with the rear axle housing 19 which is supported by hanger 20 depending from the cross brace 15. The axle-enclosing ends 21 of housing 19 are sub-

stantially supported by the braces 22 secured to posts 23 which constitute the depending ends of arch 12. Beams 17 rest on and are supported by the arch 11 and by the brackets 17' secured to brace 15.

It is to be understood that the adaptation of an automobile engine 16 as described to machine 10 is not intended to limit the device to use in combination with such an engine but merely to illustrate one preferred form of construction.

Keyed to the exposed ends of the axles 24 are sprockets 25 connected to sprockets 26 by chains 27, sprockets 26 are keyed to the shafts 28 journaled in posts 23 which have sprockets 29 keyed to their opposite ends to be connected to the large sprockets 30 by chains 31. Sprockets 30 are keyed to the rear wheel axles 14'. Sprockets 26 are larger than sprockets 25 and sprockets 30 are larger than sprockets 29 to reduce the speed of rotation of wheels 14 relatively to engine 16.

Mounted directly behind the engine 16 is an operator's seat 32 positioned directly behind a steering wheel 33. These likewise are of conventional automobile type and connected by the conventional steering mechanism 34 with the link 35. Link 35 is pivotally connected to cranks 36 which are keyed to the vertical shafts 37. Shafts 37 are journaled in brackets 38 which are secured to and extend downwardly to the rear of posts 39, which are the depending sides of the arch 11. The lower ends of shafts 37 are bent inwardly at an angle to form the crank portions 40 provided with slots 41 as seen in Figure 2.

Referring to Figure 4 the lower ends of posts 39 are provided with outwardly extending fork portions 42 in which are journaled the spindles 43 to which are connected wheels 13. Secured to spindles 43 are cranks 44 having at their free ends the upwardly projecting pins 45 which engage slots 41 to connect cranks 40 and 44 so that wheels 13 may be steered by the steering wheel 33.

Mounted on the opposite sides of arches 11 and 12 above the wheels 13 and 14 and extending lengthwise of the machine 10 are the platforms 46 mounted on the brackets 47 which are connected to the uprights 48 on each side of the platforms 46. The upper ends of uprights 48 are secured to a railing 49 which completely surrounds the platforms 46 and the inner sides of which are secured to the arch 12 at 50 to support the rear ends of platforms 46. The front ends of platforms 46 are mounted on and secured to the braces 51 which are in turn secured to posts 39 of arch 11.

Arches 11 and 12 are connected together and

braced by the rods 52 which are secured at 53 to posts 23 and which extend forwardly and are bent at 54 and connected at the bend to posts 39. The rods 52 then extend rearwardly and upwardly and connected at 55 to posts 23.

The drive shaft housing 18 is supported intermediately by braces 56, as seen in Figure 2 which extend from the axle housing 21 and are connected at 57 to housing 18. Braces 56 are in turn supported by braces 58 which extend upwardly at an angle from posts 23.

The supporting structure for the machine 10 is formed for the most part of angle shaped members to give as much strength as possible without unnecessarily increasing the weight.

The engine 16 and housing 19 are sufficiently elevated so that machine 10 can pass through a corn field with engine 16 and housing 19 spanning two rows of corn. The workmen can position themselves on the platforms 46 facing in opposite directions so that the two rows of corn passing under machine 10 and the row on each side of machine 10 may be detasseled simultaneously. The railing 49 will be sufficiently high and rigid so that the workmen may lean against it freely and be supported by it so that they will not have to hold onto the machine with one hand while working thus leaving both hands free to work with.

From the foregoing it will be seen that seat 32, which is supported by braces 17, is in turn adapted to support the operator of the vehicle who drives machine 10 so that wheels 13 and 14 and platforms 46 will pass between the rows of corn. From his elevated position he has a clear view to the front so that he can look down onto the corn and steer wheels 13 to follow the rows. The chain drive as described not only forms the vertical connection between the rear axles 24 and the stub axles 14' to drive wheels 14, but also reduces the driving ratio between wheels 14 and engine 16 to increase the power sufficiently to permit the machine to move through fields with its load, and also permit the machine to be driven very slowly in order to permit the corn to be detasseled as the machine 10 moves by.

The invention is not intended to be limited to the exact means as disclosed for mounting and supporting the engine 16 and its driving mechanism forming a part of a conventional automobile; nor by the particular means employed for supporting the workmen's platforms 46.

The vertical rods 37 having the crank ends 40 connected to cranks 44 provide a steering mechanism that functions in the same manner as an automobile steering mechanism, but which is differently constructed because of the elevated position of the conventional portion 34 relatively to the wheels 13.

Various changes may be resorted to in the construction of the device and arrangement of the parts without departing from the spirit and scope of the invention as hereinafter claimed.

I claim as my invention:

1. A motor driven farm machine comprising arches arranged in spaced relationship, wheels connected to the depending ends of said arches to

support them in an elevated position for spanning rows of growing corn, beams connected to the horizontal portions of said arches, driving means for said machine mounted on said beams and connected to the rear wheels to drive the same, means to operate said driving means and to steer the machine from a position on top of said beams, and platforms including guard rails secured to the sides of said arches on the outside and longitudinally of the machine and directly above the wheels to support workmen engaged in detasseling growing corn, said arches being adapted to span the growing corn while the wheels and platforms move between the rows.

2. A farm machine comprising front and rear wheels supporting an elevated chassis, a motor mounted on top of said chassis and having a drive shaft extending rearwardly therefrom, means connecting said drive shaft and the rear wheels of said machine to drive the same, a steering mechanism for the front wheels including vertical shafts connecting a steering structure arranged on top of said chassis and cranks connected to front wheel stub axles to steer the machine from a position on top of the chassis, and means arranged on the sides of the chassis and in vertical alignment therewith above the wheels and extending longitudinally of the chassis to support a number of workmen engaged in detasseling growing corn, said supporting means and wheels being adapted to pass between the rows of corn, and said chassis being sufficiently elevated and of sufficient width to span two rows of the corn whereby the workmen may detassel four rows of corn simultaneously.

3. A corn detasseling machine comprising a chassis having depending posts at the four corners thereof, stub axles projecting outwardly from the free ends of said depending posts, wheels mounted on said stub axles, driving means including a motor supported above said chassis, vertically disposed means connecting said drive means and certain of said wheels, and platforms disposed longitudinally of said chassis and connected to the outer sides of said posts above the wheels and adapted to support workmen engaged in detasseling growing corn, said chassis being adapted to span two rows of the growing corn and the wheels and platforms being adapted to pass between the rows whereby the workmen may simultaneously detassel four of the rows.

4. A corn detasseling machine comprising an elevated chassis provided with depending posts at the corners thereof, wheels connected to the outer sides of the depending ends of said posts, platforms secured to said posts and extending longitudinally of the chassis, said platforms being disposed directly above the aligned wheels of the machine, and drive means for said machine including a motor mounted above and between said platforms and adjacent the forward end of the chassis, said drive means including a plurality of sets of chains disposed between and beneath the platforms and connected to certain of said wheels.

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