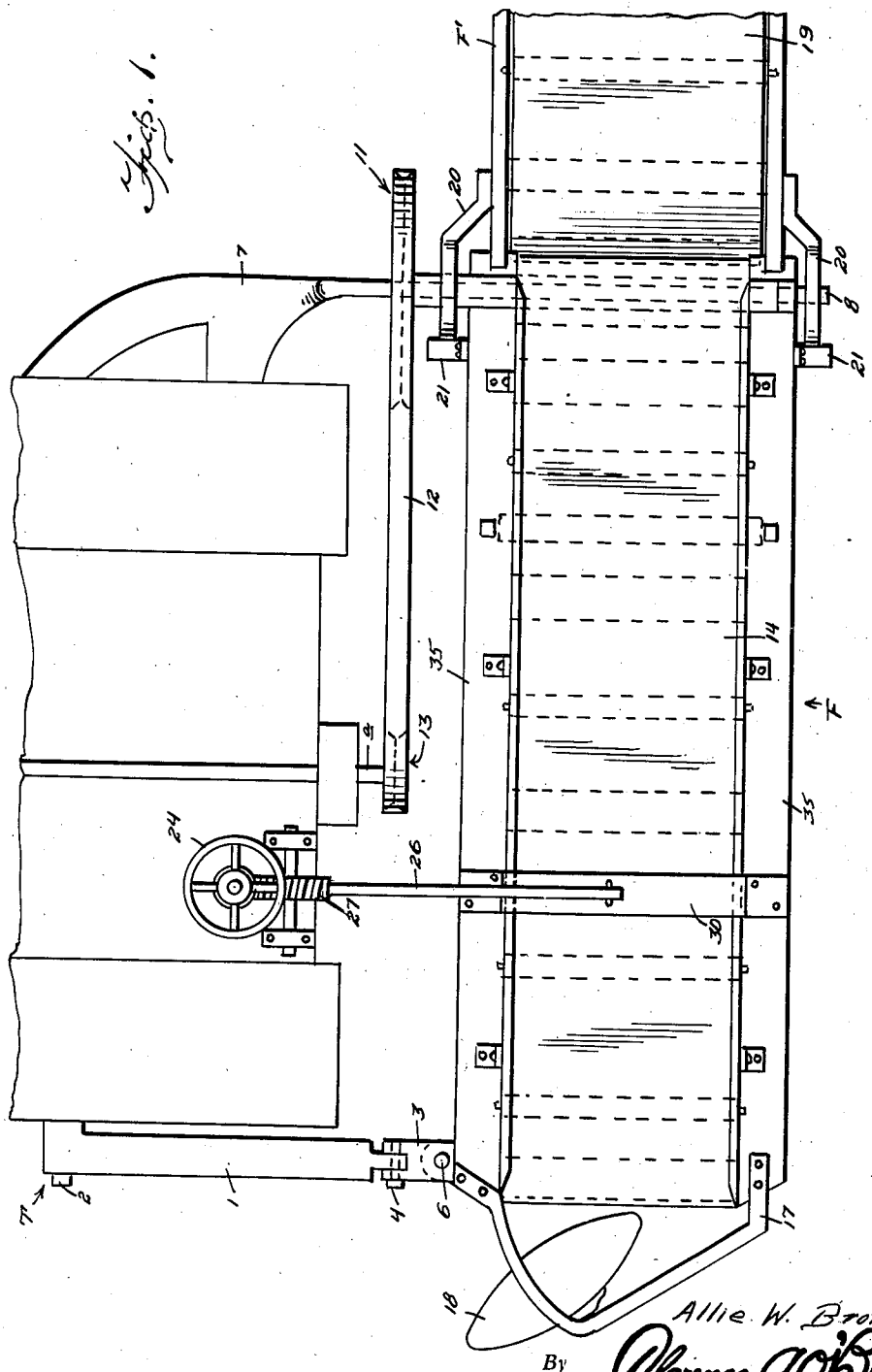
April 21, 1942. A. W. BROWN 2,280,473

TERRACE BUILDING APPARATUS

Filed March 1, 1941 4 Sheets-Sheet 1



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TERRACE BUILDING APPARATUS

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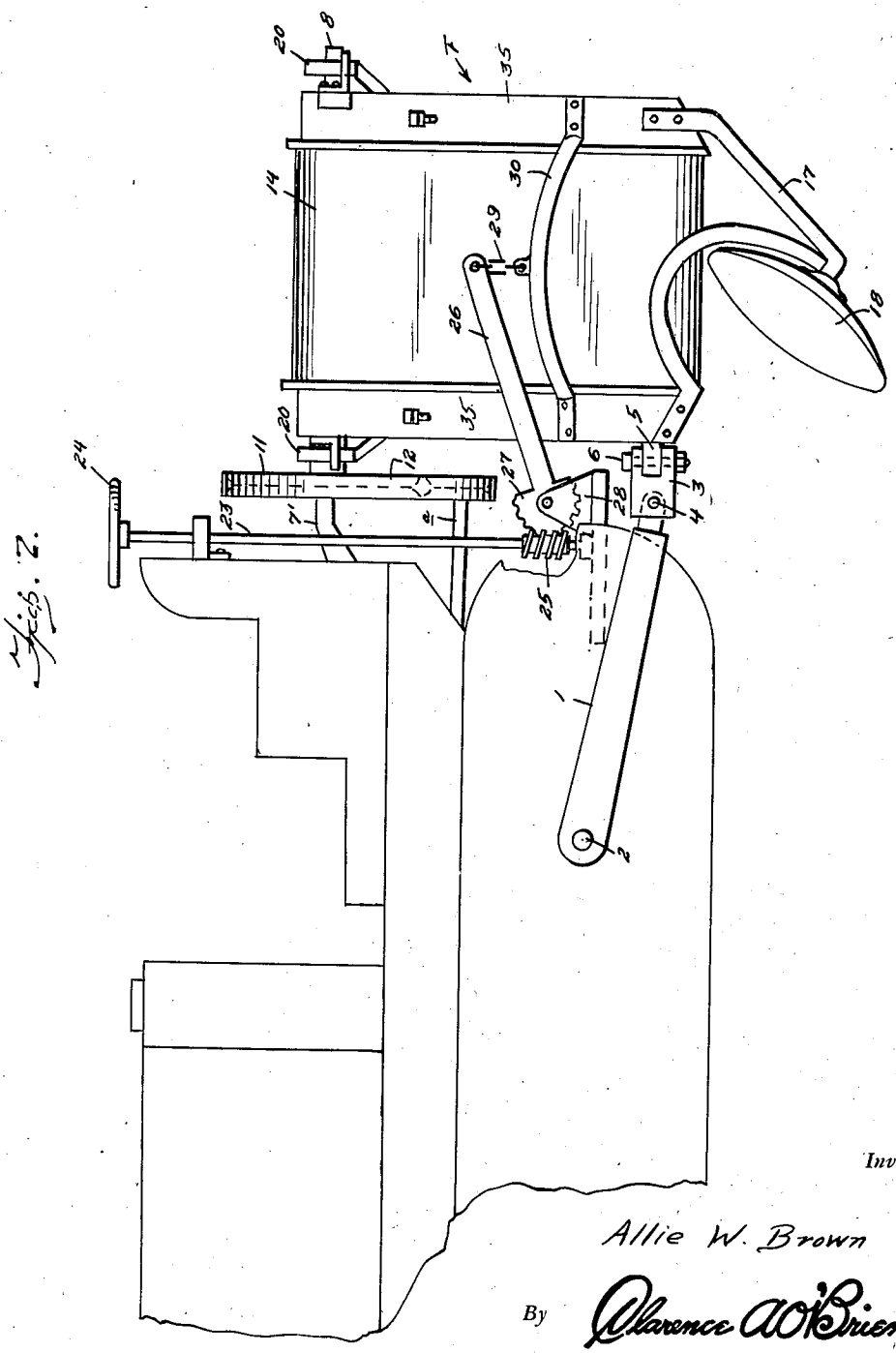


Fig. 2.

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TERRACE BUILDING APPARATUS

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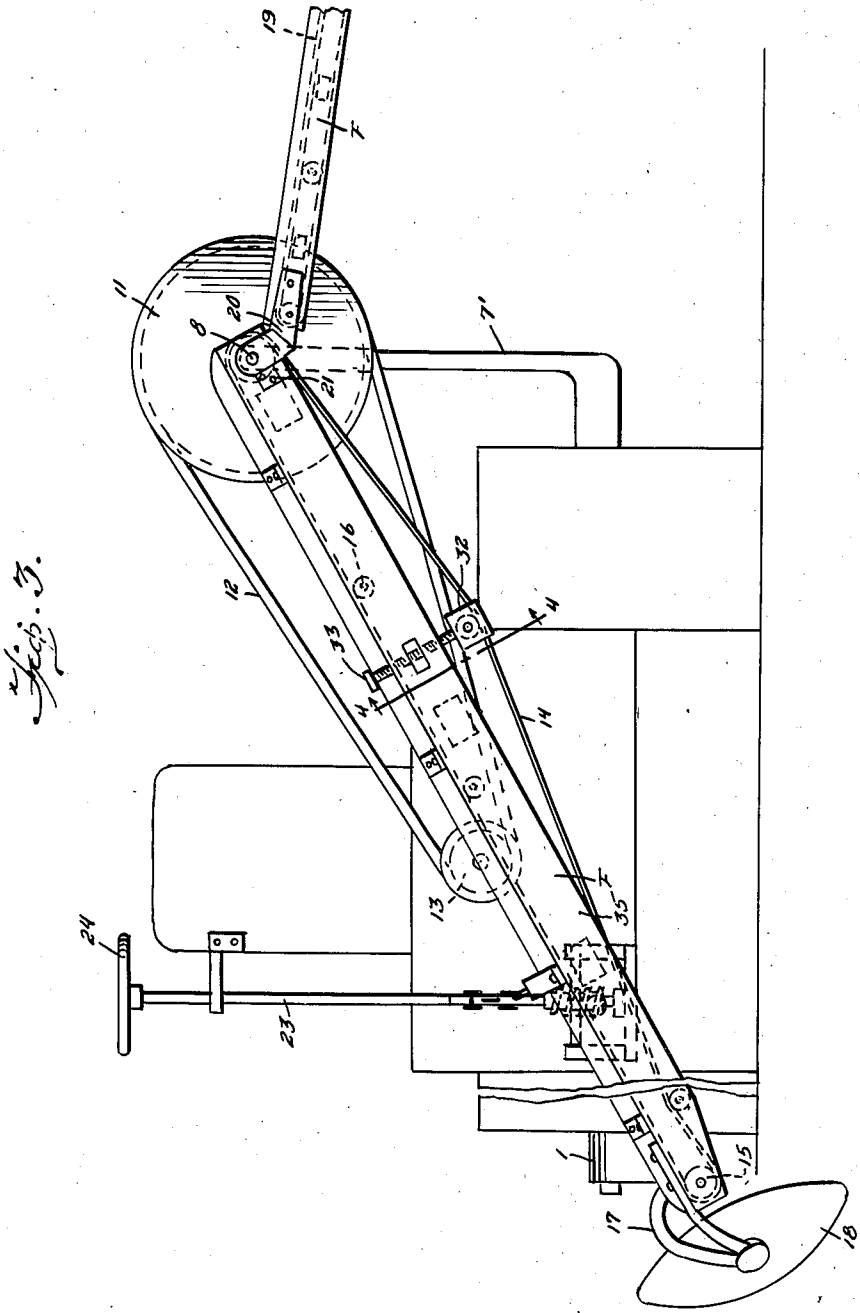


Fig. 3.

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TERRACE BUILDING APPARATUS

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Fig. 4.

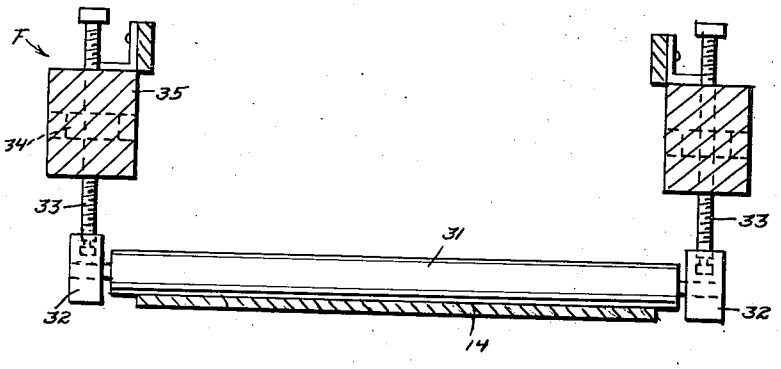
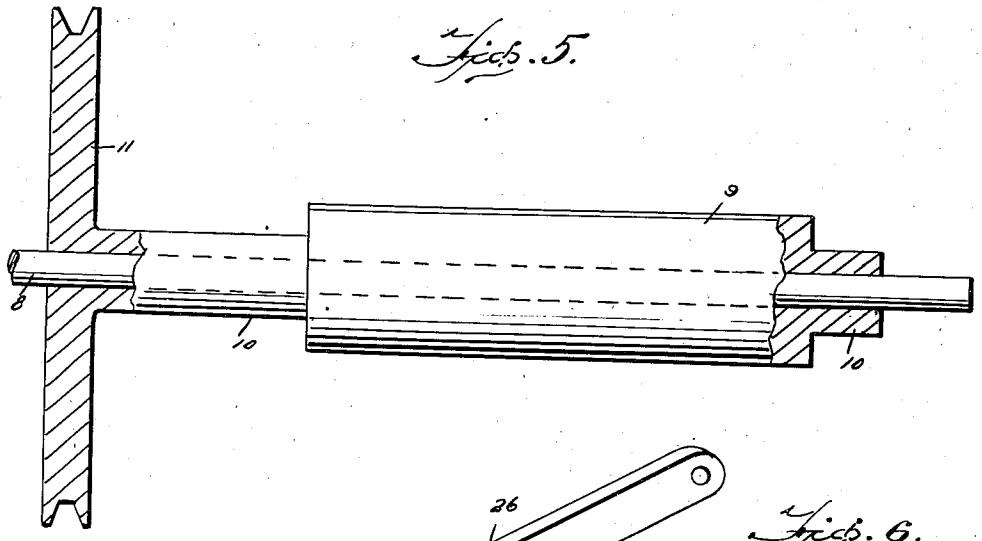


Fig. 5.



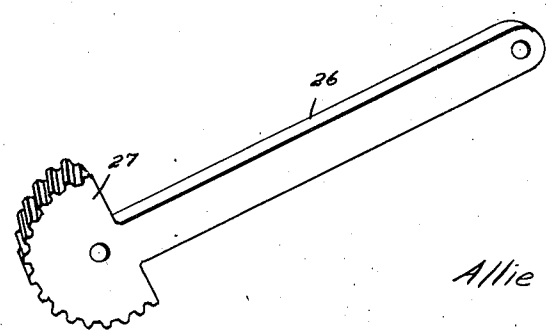


Fig. 6.

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UNITED STATES PATENT OFFICE

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TERRACE BUILDING APPARATUS

Allie W. Brown, Elgin, Kans.

Application March 1, 1941, Serial No. 381,342

3 Claims. (Cl. 37—110)

This invention relates to an apparatus for building terraces in fields and the like, the invention being mainly used in soil conservation service, the general object of the invention being to make the apparatus in the form of an attachment for a tractor or truck with means whereby as the vehicle travels along a field a plow will lift dirt from a point at one side of the vehicle and deposit it on a conveyor which will carry the dirt to the opposite side of the vehicle to build the terrace.

Another object of the invention is to make the parts adjustable so that the attachment can be raised into inoperative position so that it can be transported with the vehicle along roads and the like without injuring the roads.

Another object of the invention is to so form the attachment that no wheels are used which would injure the terrace being built.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a fragmentary top plan view showing the invention on a tractor.

Figure 2 is an elevational view of Figure 1 looking toward the left hand side thereof.

Figure 3 is a rear view of Figure 1.

Figure 4 is a section on the line 4—4 of Figure 3.

Figure 5 is a view partly in section and partly in elevation of the drive roll for the conveyor belt, the pulley attached to the roll and the supporting shaft for such parts.

Figure 6 is a view of the arm for adjusting the apparatus.

The letter T indicates a tractor though this may be a truck and the letter *a* indicates the take-off shaft at the rear of the tractor. In carrying out the invention a conveyor frame F is provided for extending across the rear of the tractor and an arm 1 is connected to one side of the tractor for pivotal movement as by a bolt 2 and a block 3 is pivoted to the rear end of the arm as shown at 4 so that the block can rock about a laterally extending and horizontal axis. The rear end of the block is forked to receive a lug 5 on the front edge of the frame F at one end thereof and a bolt 6 passes through the prongs and the lug or bracket so that the lug or bracket can move about a vertical pivot. A large bracket 7 is attached to the opposite side of the tractor from that side to which the bracket or arm 1 is connected and this bracket 7 is formed with an upstanding part 7' to which a rearwardly extending horizontal shaft 8 is connected. This shaft passes through a roll 9 having reduced ends 10 which form trunnions which are rotatably arranged in side members of the frame F and a pulley 11 is connected to the inner trunnion, a belt 12 passing over this pulley and over a small pulley 13 on the take-off shaft *a*. Thus when the shaft *a* is in motion the pulley 11 will be rotated so as to rotate the roll 9 and thus movement will be imparted to the conveyor belt 14 which passes over the roll 9 and over a roll 15 adjacent the other end of the frame F. Small supporting rolls 16 are carried by the frame and over which portions of the belt pass. A small frame 17 is attached to the left hand end of the conveyor frame and rotatably supports a disk plow 18 which is so located that as the tractor travels along this plow will make a furrow in the ground alongside of the tractor and throw the soil upon the conveyor belt so that the soil or dirt is conveyed upwardly and across the rear end of the tractor. This dirt is deposited upon a second conveyor 19, the frame F' of which has the arms 20 attached to its side members adjacent the inner end thereof and these arms pivot on the shaft 8 so that the frame F' can be raised and lowered. The frame F' is held in an outwardly and downwardly sloping position normally by portions of the arms engaging the stop blocks 21 as shown in Figures 1 and 3. The arms are so shaped that this conveyor frame F' can be swung upwardly and then inwardly and downwardly to rest upon the upper portion of the main frame F so that this conveyor frame F' will be out of the way when not in use and when the tractor is traveling on a road or the like.

A vertically arranged shaft 23 is supported for rotary movement in the rear part of the tractor and has a hand wheel 24 at its upper end and a worm 25 is connected to its lower end. An arm 26 has a segmental worm gear 27 on its front end which is pivoted to a supporting bracket 28 on the tractor, this gear meshing with the worm 25. The rear end of the arm 26 is connected by a chain 29 with a yoke 30 extending across the frame F an appreciable distance from the plow carrying end thereof and by turning the shaft 23 in one direction the arm 26 will be caused to raise the left hand end of the frame

F, this frame turning on the shaft 8 and the arm 1 with its universal joints 4, 3 and 6 moving upwardly so that the left hand end of the frame with the plow can be raised well above the surface of the ground so that these parts will not contact the ground or other surface.

When the device is in lowered position it will be seen that as the tractor travels along the plow 18 will form a furrow at the left hand side of the tractor and the dirt will be thrown upon the conveyor 14 which carries the dirt upwardly and across the rear of the tractor and then the dirt will drop upon the conveyor 19 which slopes downwardly and outwardly so that the weight of the dirt will cause the belt to travel to deposit the dirt at the outer end of the conveyor 19 upon the soil an appreciable distance from the right hand side of the tractor and thus the field will be terraced easily and quickly. In order to tighten the conveyor belt 14 a roll 31 engages the lower reach of the belt, see Figure 4, and the trunnions of this roll are located in the bearing blocks 32 which are swivelled to the lower ends of the screw shafts 33 passing through nut members 34 supported in the side members 35 of the frame F. Thus by turning these shafts 33 the roller 31 can be lowered or raised and thus the tension of the belt 14 can be regulated.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts provided that such changes fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a vehicle, a conveyor frame passing across the rear thereof and extending from a point adjacent one side of the vehicle upwardly to a point adjacent the opposite side, a bracket connected to said opposite side of the vehicle and having an upstanding part and a horizontally arranged part extending rearwardly from the upper end of the upstanding part, a roll rotatably arranged on the horizontal part of the bracket and having trunnions at its ends on which the adjacent end of the frame is rotatably arranged, a roll carried by the opposite end of the frame, a belt passing over the rolls, an arm pivoted to said one side of the vehicle, a universal joint connecting the rear end of the arm to the low end of the frame, a bracket connected to the lower end of the frame, a plow carried by the last-mentioned bracket for digging a furrow at a side of the vehicle and throwing the dirt upon the belt, and means for rotating the first-mentioned roll from a part of the vehicle.

2. In a vehicle, a conveyor frame passing across the rear thereof and extending from a point adjacent one side of the vehicle upwardly to a point adjacent the opposite side, a bracket connected to said opposite side of the vehicle and having an upstanding part and a horizontally arranged part extending rearwardly from the upper end of the upstanding part, a roll rotatably arranged on the horizontal part of the bracket and having trunnions at its ends on which the adjacent end of the frame is rotatably arranged, a roll carried by the opposite end of the frame, a belt passing over the rolls, an arm pivoted to said one side of the vehicle, a universal joint connecting the rear end of the arm to the low end of the frame, a bracket connected to the lower end of the frame, a plow carried by the last-mentioned bracket for digging a furrow at a side of the vehicle and throwing the dirt upon the belt, and means for rotating the first-mentioned roll from a part of the vehicle, a second conveyor frame, arms connected to one end of the second frame and having parts extending upwardly and outwardly from the inner end of the second conveyor frame, said parts having holes therein through which pass the horizontal part of the first bracket, said parts of the arms being located adjacent the outer sides of the first conveyor frame and blocks on said sides of the first frame engaged by said parts of the arms of the second frame for holding the second frame in a position extending downwardly and outwardly from behind of the first conveyor frame and permitting the second conveyor frame to be swung upwardly over a portion of the first conveyor frame.

3. In a vehicle, a conveyor frame passing across the rear thereof and extending from a point adjacent one side of the vehicle upwardly to a point adjacent the opposite side, a bracket connected to said opposite side of the vehicle and having an upstanding part and a horizontally arranged part extending rearwardly from the upper end of the upstanding part, a roll rotatably arranged on the horizontal part of the bracket and having trunnions at its ends on which the adjacent end of the frame is rotatably arranged, a roll carried by the opposite end of the frame, a belt passing over the rolls, an arm pivoted to said one side of the vehicle, a universal joint connecting the rear end of the arm to the low end of the frame, a bracket connected to the lower end of the frame, a plow carried by the last-mentioned bracket for digging a furrow at a side of the vehicle and throwing the dirt upon the belt, and means for rotating the first-mentioned roll from a part of the vehicle, a yoke straddling the conveyor frame adjacent the low end thereof, an arm pivotally supported from the rear of the vehicle, a cable connecting the rear end of the last-mentioned arm to the yoke, the front end of the arm having a segmental gear thereon, a vertically arranged shaft rotatably supported at the rear of the vehicle, a worm at the lower end of the shaft engaging the segmental gear and means for rotating the shaft for raising and lowering the last-mentioned arm to raise and lower the plow carrying end of the conveyor frame.

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