

H. BRAND.
GRADER.

APPLICATION FILED JULY 11, 1916.

1,241,336.

Patented Sept. 25, 1917.

3 SHEETS—SHEET 1.

Fig. 1.

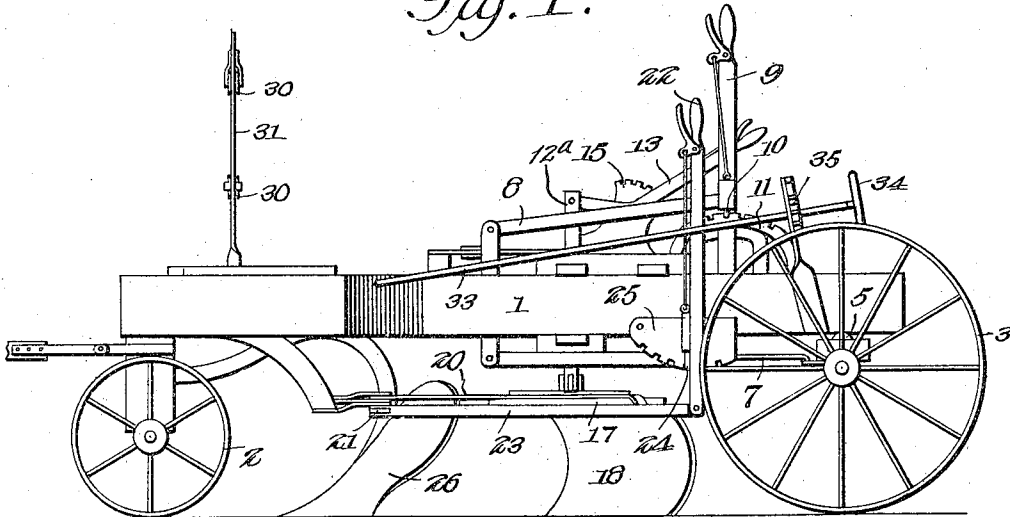
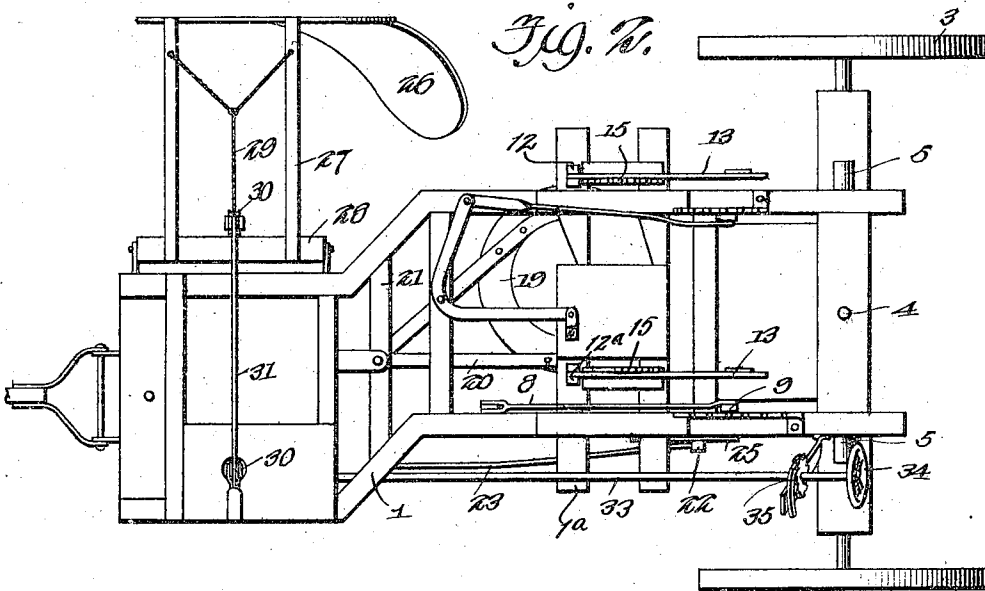


Fig. 2.



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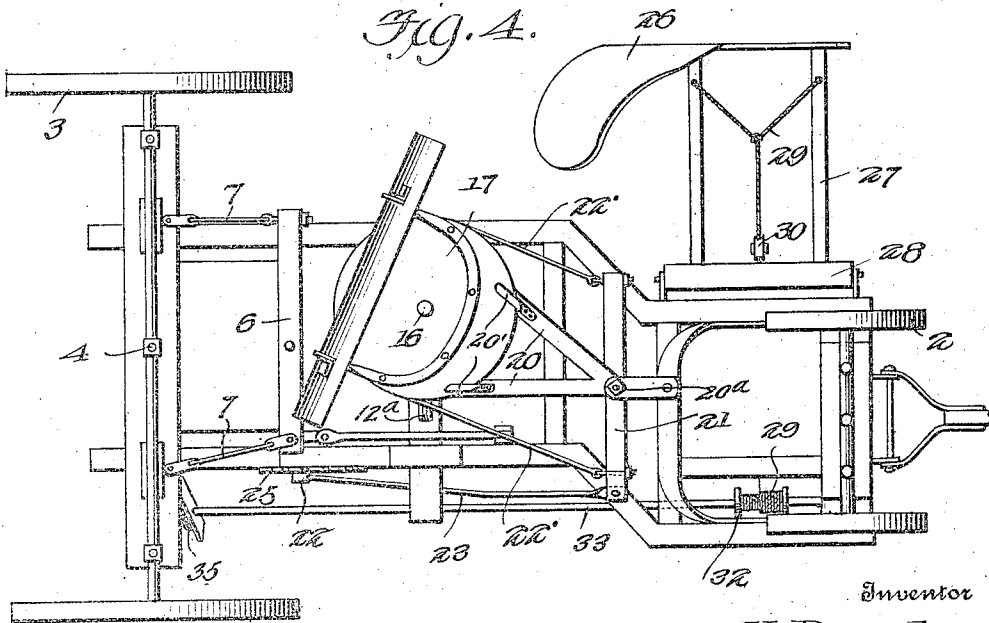
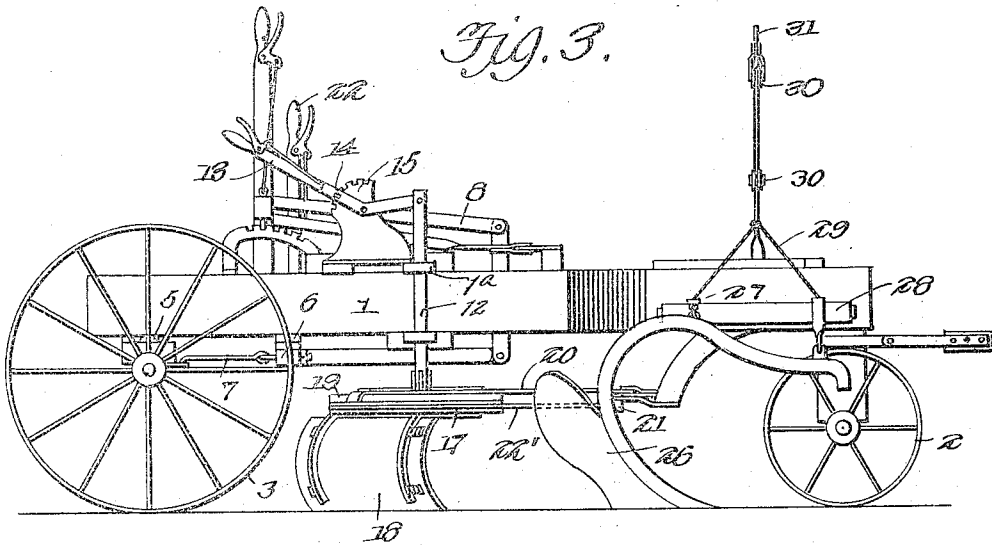
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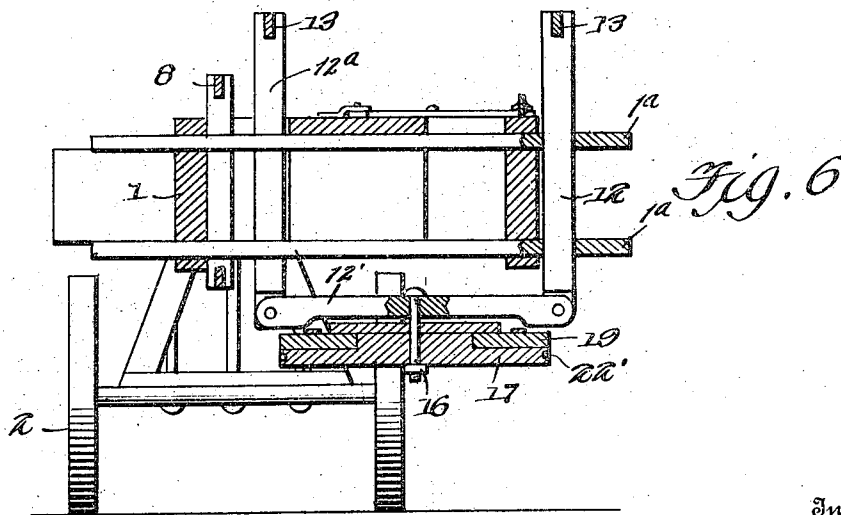
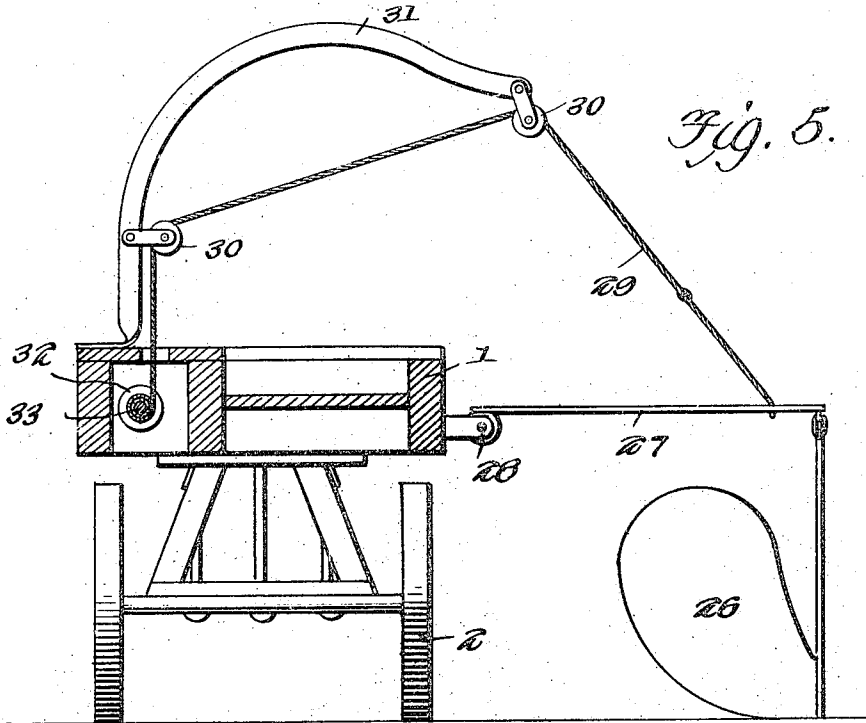
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

HERMAN BRAND, OF BREESE, ILLINOIS.

GRADER.

1,241,336.

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Application filed July 11, 1916. Serial No. 108,679.

To all whom it may concern:

Be it known that I, HERMAN BRAND, a citizen of the United States, residing at Breese, in the county of Clinton and State of Illinois, have invented new and useful Improvements in Graders, of which the following is a specification.

This invention relates to a grader and has for its primary object to construct a grader capable of accurately regulating the depth of cut and at the same time the cutting action of the blade.

An object of the invention is the novel manner of supporting the rear wheel construction so that the same may be moved to an angle for immediately moving the grader to either side of the position it occupies.

Another object of the invention is the novel manner of supporting the turn table for vertical as well as arcuate movement and controlling such movement from the rear of the grader.

With these and other objects in view the invention will be better understood from the following detailed description taken in connection with the accompanying drawings, wherein—

Figure 1 is a side elevation of the grader.

Fig. 2 is a top plan view thereof.

Fig. 3 is a view looking at the opposite side from that illustrated in Fig. 1.

Fig. 4 is a bottom plan view.

Figs. 5 and 6 are sectional views.

Referring to the drawings the numeral 1 designates the body of the grader supported by the front wheel construction 2 and the rear wheel construction 3, the latter being supported for pivotal movement by means of a bolt 4 passing through the body and secured to the axle and further supports anti-friction rollers 5 arranged to engage a portion of the body 1. Supported by the under surface of the body is a lever 6, the ends of which have a link connection 7 with the rear wheel construction and this lever is adapted to receive motion by means of the link mechanism 8 including a lever 9 mounted for swinging movements upon the body. This lever 9 has associated therewith a manually operated latch 10 cooperating with a rack 11 supported by the body. Mounted in the body 1 for vertical adjustment is a frame comprising a transversely arranged bar 12' having vertical members 12 and 12^a pivoted at its ends, said members having a sliding engagement with transverse

bars 1^a carried by the body 1. This frame is adjusted by means of the levers 13 which are pivoted to each of said members and carry latches 14 for engagement with racks 15 by means of which the frame is adjusted at the desired height. Rotatably mounted upon the bar 12' by means of bolt 16 is a turn table 17, to the under side of which is rigidly secured a grading blade 18, the turn table 17 is reinforced by means of an annulus 19. Secured to the underside of the body is a guiding and steadying frame 20, said frame being loosely mounted at one end upon a bolt 20^a and having its opposite end secured to an annulus 19 which is in turn swiveled on the turn table, as shown in Fig. 6. The frame is also provided with brackets 20' adapted to engage the under surface of the turn table in the operation of guiding the said table in its rotative movement, and steadying the same when the grader is in contact with the ground. The brackets 20' engage the turn table in a manner to permit of its vertical movement, this movement being insufficient however to permit the disengagement of the said brackets. Pivotaly mounted upon the frame 20 is a lever 21 each end of this lever being connected by means of the cable 22' with the turn table 17, for the purpose of partially rotating this table to give the desired angular adjustment to the blades. In order to swing the lever 21 on the pivot there is provided a link connection 23 with the manually operated lever 22, which has a latch 24 for cooperation with the rack 25, which is secured to the body 1.

As far as I have proceeded it will be seen that by means of suitable link mechanism that includes the manually operated lever, I am able to give swinging movements to the rear wheel construction for immediately diverting the vehicle to either side of its path of movement and further giving vertical as well as arcuate movements to the blade 18. To complete my invention I provide a plow 26 supported by a bracket 27 having pivotal connection with the body as indicated at 28. This bracket 27 has connected thereto one end of a flexible element 29 that passes over pulleys 30 supported by an arm 31 and passes around a drum 32 carried upon one end of a shaft 33 that is manually operated by a hand wheel 24. Retrograde movement of the shaft is prevented by a pawl and ratchet device 35.

It is to be understood that while all of the several features of my improved grader have special coöperation with one another and together constitute a particularly effective mechanism for the purpose in view, 5 certain of these features may be applied in other relations and I therefore desire to cover the combination present in the several parts of my improved machine whether employed in the general organization shown or 10 elsewhere.

It is further to be understood that the structural embodiment of the invention as a whole and its various features as shown 15 is merely illustrative and not restrictive, since I am well aware that many of the details of construction can be widely varied

without departing from the spirit of the invention. I therefore do not desire to be limited in these particulars or in any others, 20 except as set forth in the appended claim.

What I claim is:—

A grader comprising a body provided with front and rear wheels, a turn table adjustably secured to said frame and carrying 25 a grader blade, a lever pivoted to the grader body, a cable secured to each end of said lever and engaging the turn table, a link connected to one end of the pivoted lever and a manually operated lever connected to 30 said link for adjusting the turn table.

In testimony whereof I affix my signature.

HERMAN BRAND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."