J. NORTHON.

ROAD LEVELER.

APPLICATION FILED SEPT. 26, 1919.

1,329,543.

Patented Feb. 3, 1920.

3 SHEETS—SHEET 1.

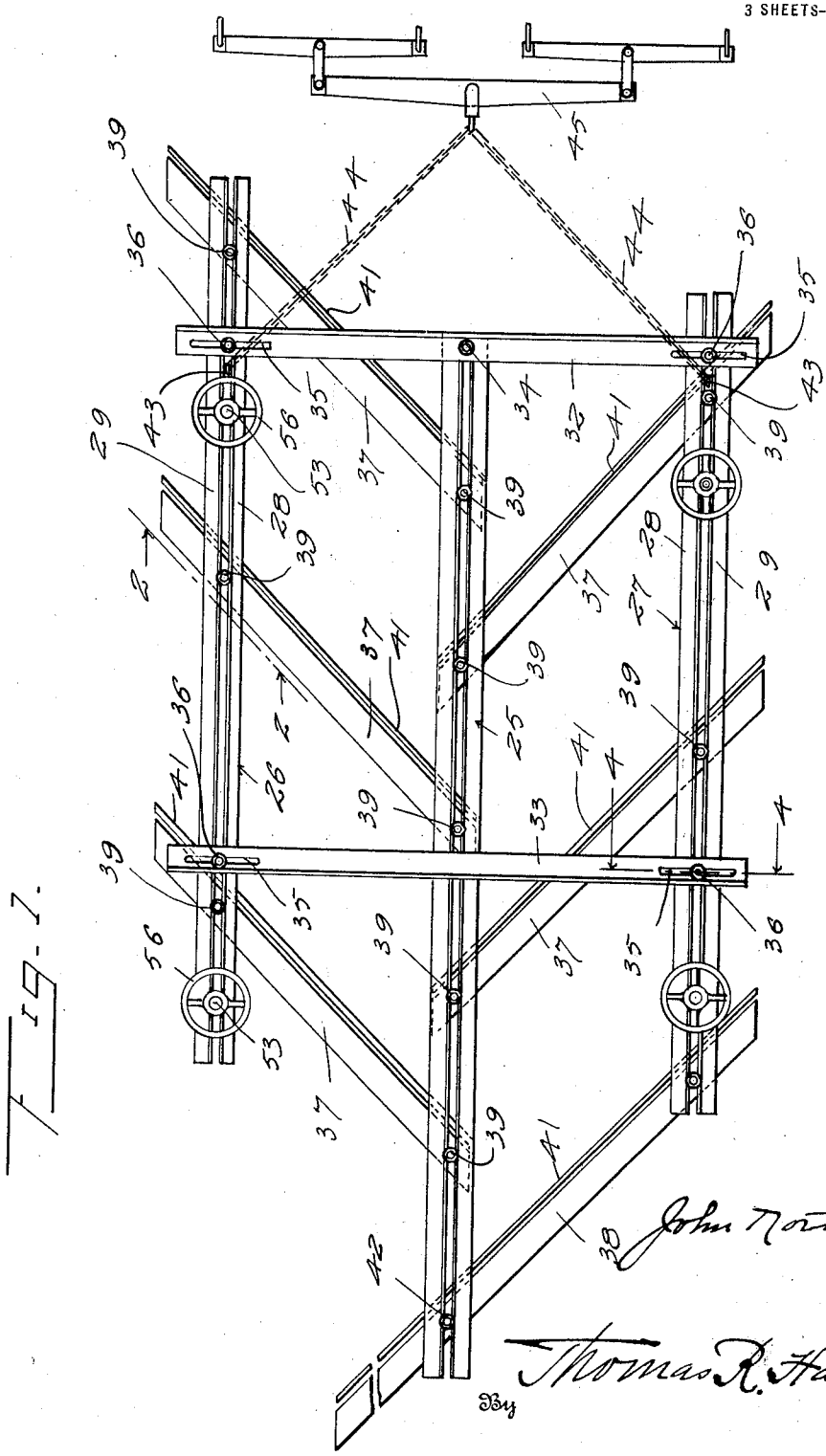


Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 6.

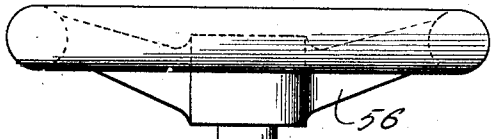
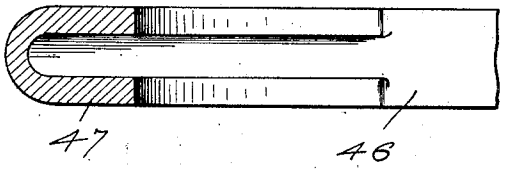


Fig. 7.



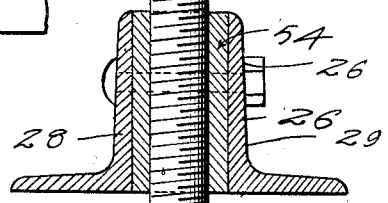
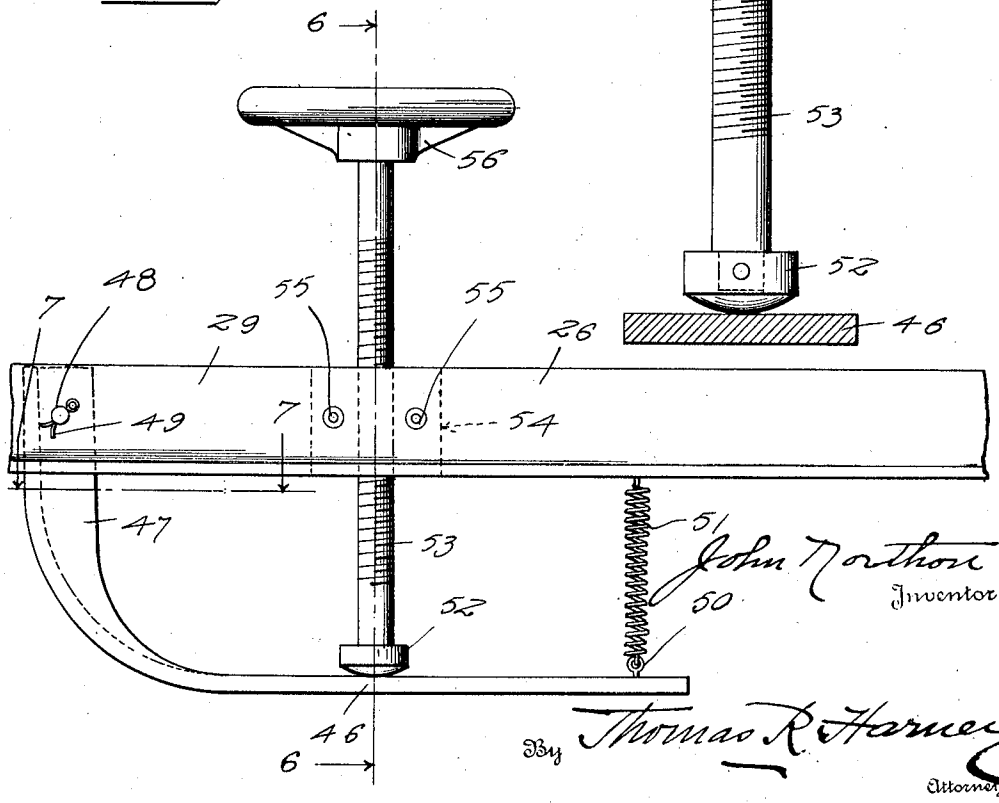


Fig. 5.



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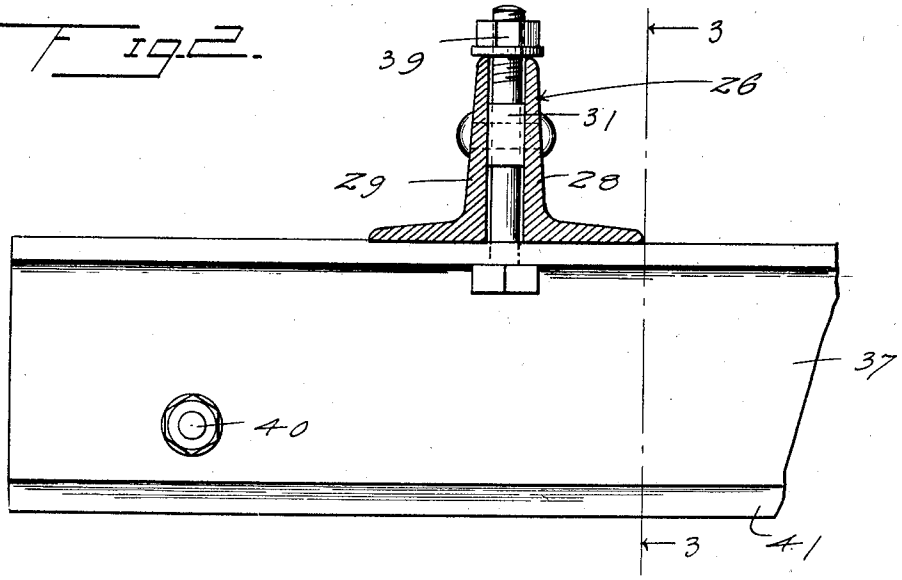
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3 SHEETS—SHEET 3.

Fig. 2.



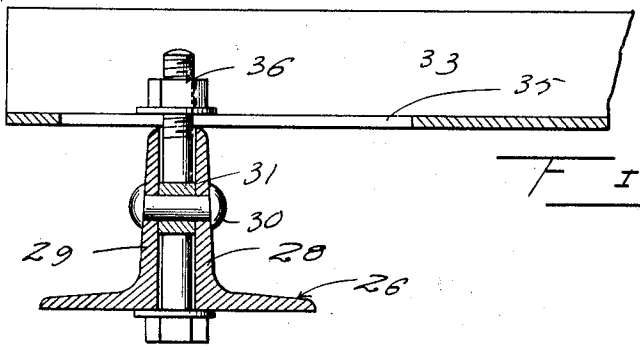
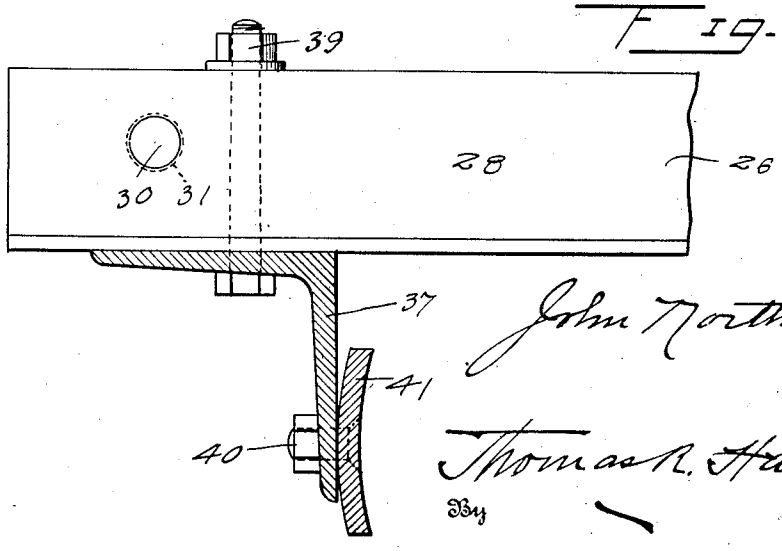


Fig. 4.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN NORTHON, OF CLARE, MICHIGAN.

ROAD-LEVELER.

1,329,543. Specification of Letters Patent. Patented Feb. 3, 1920.

Application filed September 26, 1919. Serial No. 326,428.

To all whom it may concern:

Be it known that I, JOHN NORTHON, a citizen of the United States of America, residing at Clare, in the county of Clare and State of Michigan, have invented certain new and useful Improvements in Road-Levelers, of which the following is a specification.

My present invention relates generally to road machines and more particularly to light draft road levelers, my object being the provision of a comparatively inexpensive arrangement for this purpose, *i. e.*, by means of which roads may be leveled, which will avoid many of the disadvantages of the present constructions for this purpose and will admit of ready adjustment in several respects.

In carrying out my invention, I propose a machine whose function is to cut down the high spots and fill in the low spots in a dirt or gravel roadway surface, and to do this without constantly combating the disadvantages of side draft, particularly as where, in the present case, it is intended that the surplus material shall be left along the center or crest of the roadway.

My invention further aims to provide a lasting durable construction, in which such parts as are subject to the greatest wear in use, may be readily replaced from time to time and in which the several adjustments may be easily and conveniently effected.

In the accompanying drawings, illustrating my present invention:—

Figure 1 is a top plan view of the complete machine,

Fig. 2 is a vertical sectional view taken substantially on line 2—2 of Fig. 1,

Fig. 3 is a vertical section taken substantially on line 3—3 of Fig. 2,

Fig. 4 is a vertical cross section taken substantially on line 4—4 of Fig. 1,

Fig. 5 is a side elevation of a portion of the frame illustrating one of the supporting skids, and

Fig. 6 is a vertical sectional view taken substantially on line 6—6 of Fig. 5.

Fig. 7 is a plan view illustrating one of the supporting skids.

Referring now to these figures, my invention proposes a float or roadway leveler which includes a central longitudinal beam 25 and side beams 26 and 27, the side beams 26 and 27 being of substantially the same length, and the central beam 25 being of increased length with respect thereto, so as to project rearwardly beyond the ends of the side beams.

Each of these several beams is made up of a pair of angle bars 28 and 29 disposed with their horizontal flanges in the same plane and with their vertical flanges in spaced apart parallel relation and connected rigidly to one another by rivets 30 passing through spacing thimbles 31, as seen in Figs. 2 and 4 in particular.

Each of the several beams 25, 26 and 27 has therefore a central lengthwise slot which is interrupted at spaced points only by the connecting rivets 30 and 31, so as to receive the bolts through the slot for securing the several connecting parts, which are thus freely adjustable lengthwise of the beams.

The frame of the machine consists of the central and side beams disposed in spaced parallel relation and connected by cross beams 32 and 33, each of the latter of which is in the form of an angle bar securely fastened at its center by a bolt 34 to the central beam 25 and each cross beam has adjacent to its outer ends lengthwise slots 35 through which bolts 36 project from the side beams, so that the two side beams 25 and 27 may be adjusted toward and away from the central beam within the limits of slots 35 and in this way vary the width of the entire frame as it becomes necessary to do so.

By reference to Fig. 4, it will be noted that the cross beams 32 and 33 extend above the longitudinal beams 25, 26 and 27 and by reference to Figs. 2 and 3 in particular, it will be noted that the several inclined cutter bars 37 extend below the several longitudinal frame beams, each of these cutter bars being in the form of an angle bar of a length somewhat greater than half of the width of the main frame.

As will be noted from Fig. 1, the several cutter bars 37 extend from the two side beams 26 and 27 to the central beam 25 in staggered relation rearwardly throughout the series, the inner ends of the series of cutter bars overlapping at the center of the machine so that in passing over a roadway surface, the accumulated dirt and gravel will be passed in a zig-zag path from one cutter bar to another and finally to a rear elongated cutter bar 38 whose length somewhat exceeds the full width of the machine. In this way accumulated gravel and dirt will be carried to all the hollow spots in the

roadway surface over which the machine travels so as to effectively fill these hollow spaces with the material cut from the high spots and the surplus material will be finally shifted to the center of the roadway in order to conserve so far as possible the surface gravel or chips.

Each of the several cutter bars 37 and 38 is in the form of an angle bar whose upper horizontal flange is apertured for the reception of bolts 39 connecting the same to the side and central beams of the frame, the depending vertical flange being provided with apertures for the reception of bolts 40 by means of which a double edge knife blade 41 of the form seen in Fig. 3, is securely fastened in reversible relation along the lower edge of the cutter bar.

Of the shorter cutter bars 37, the inner bolts 39 are attached to the central beam 25, the outer bolts attaching to the side beams, the same as the outer bolt of the rear elongated cutter bar 38, the latter of which has a bolt 42 intermediate its end, attaching the same to the rearwardly projecting portion of the central beam 25 and these several bolts project through the slots of the central and side beams as well as through the slotted openings of the cutter bars so that the inclination of the several cutter bars may be readily adjusted for a purpose which will be presently described.

Certain of the outer bolts of the forward cutter bars 37 may be utilized to support clevises 43, or special bolts may be passed through the side beams 26 and 27 for this purpose. These clevises receive the inner ends of chains 44 and the like to which the draft attachments generally indicated at 45 in Fig. 1 may be connected.

The frame of the machine as a whole is preferably supported upon skids 46 of which there are preferably two, at least, to each of the side beams 26 and 27. One of these skids is shown in Figs. 5 and 6, and by reference to these latter figures, it will be noted that each skid consists of a flat bar curved upwardly at one end and into U-form to constitute a shank 47, the upper end of which extends vertically through the slot of the respective side beam and is held by a transverse pin 48 and cotter pin 49, the opposite free end of the skid having an upwardly projecting eye 50, connected at the lower end of a coil spring 51 depending from the respective side beam. Intermediate its ends, each skid bar 46 is engaged by the lower enlarged and detachable head 52 of an adjusting screw 53 threaded for the major portion of its length as shown in Fig. 6 and working through a threaded bearing block 54 secured by bolts 55 and the like in the slot of the respective side beam, each vertical adjusting screw having a hand wheel 56 pinned to its upper end above the level of the frame, so that the frame may be readily adjusted. In this way, it is easy to regulate the depth of the cut of the several blades carried by the cutter bars.

It is obvious from the foregoing that in addition to the shifting of the draft attachments to one or the other of the sides of the frame, which requires constant change and careful attention, if side draft of the leveler is to be overcome in operation, I may with my improved construction avoid this disadvantage by simply varying the inclination of the cutter bars at one side, and accomplish the same result, particularly in certain instances of use, where it is awkward and in fact difficult to vary the connection draft attachments.

It is obvious, therefore, that the construction proposed by my invention is well calculated to carry out the objects first above stated, and will admit of ready adjustment for the above purposes, as well as for the purpose of regulating the depth of the cut, and it is to be observed, that for the latter purpose, I may utilize wheels instead of the skids as shown and before described.

Claims:—

1. A road leveler comprising central and side beams, each consisting of angle bars rigidly connected in spaced relation to form slots, cross braces adjustably connecting the said beams, cutter bars extending in staggered relation from the side beams to the central beam, bolts working in said beam slots and adjustably connecting said cross braces and said cutter bars, and roadway engaging supports carried by the side beams, and adjustable with respect thereto, whereby to vary the depth of cut, as described.

2. A roadway leveler comprising central and side beams, each formed of angle bars rigidly connected in spaced apart relation so as to provide a lengthwise slot, bolts extending through and adjustable in the said slots, cross braces through which certain of said bolts are extended, and a series of cutter bars extending from the side beams to the central beam in staggered relation, said cutter bars having lengthwise slots receiving certain of the bolts of the beams whereby their inclination may be varied with respect to the main frame.

3. A road leveler comprising central and side beams, cross beams connecting said beams, a plurality of cutter bars extending in staggered relation from the said beams to the central beam and each in the form of an angle bar having a depending flange, and a double edged cutter blade secured in reversible relation to the depending flange of each of the cutter bars as described.

4. A road leveler including a frame comprising longitudinal beams, cross braces adjustably connecting the said beams, cutter bars secured to the beams, skids pivotally

attached at one end to the beams to engage a roadway surface and having yielding connections at their opposite ends with the beams, and vertically adjustable members having threaded bearing on the said beams and having their lower ends engaging the skids to adjust the latter vertically with respect to the beams.

5. A road leveler including slotted frame beams, cross braces connecting the beams, cutter bars adjustably fastened to the beams, threaded bearings secured in the slots of the frame beams at spaced points, vertical adjusting screws mounted through said bearings and having hand wheels at their upper ends, and skids movably attached at one end to the beams and depending there below, said skids being engaged by the lower ends of the adjusting screws whereby to adjust the same with respect to the main frame, as described.

In testimony whereof he affixes his signature.

JOHN NORTHON.