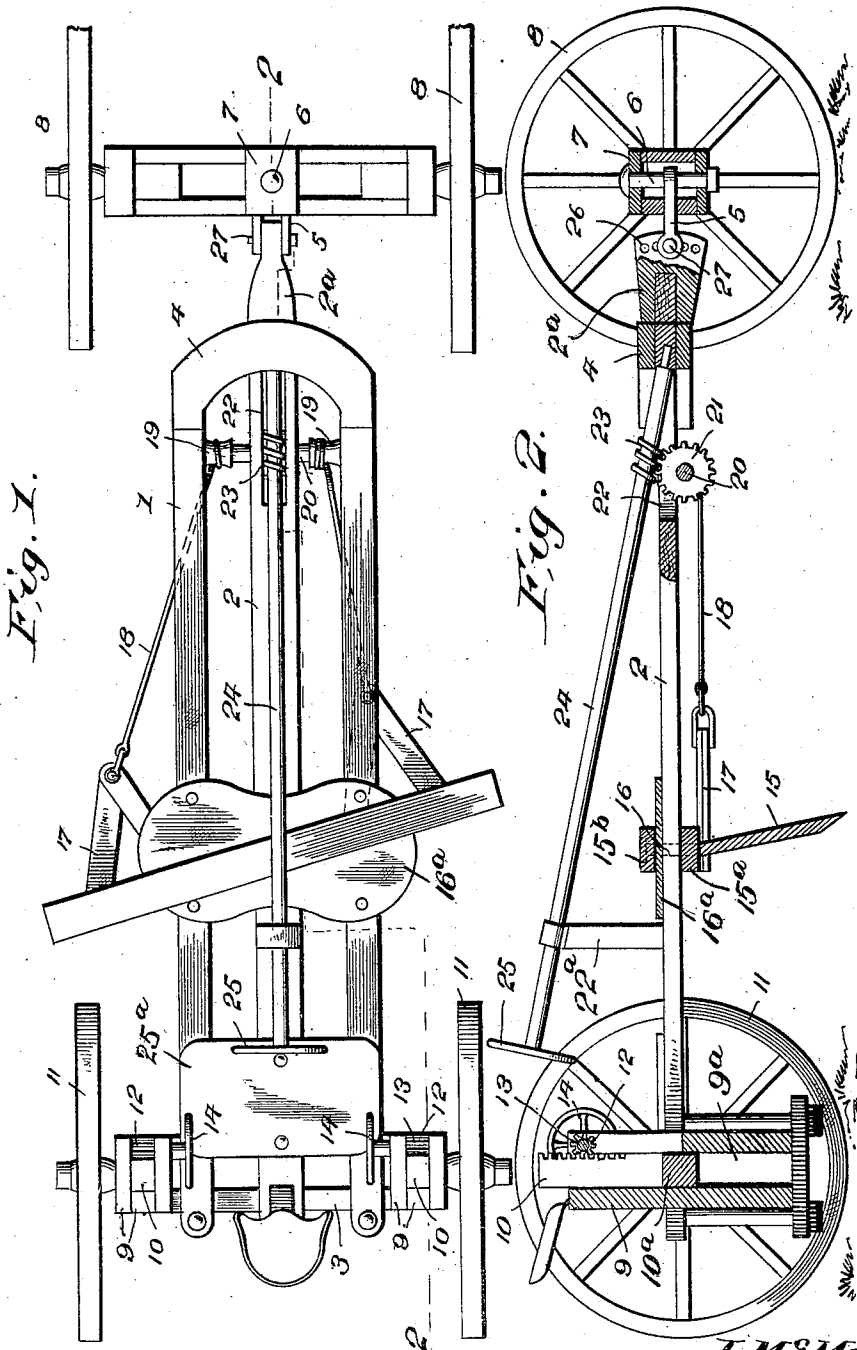


No. 849,079.

PATENTED APR. 2, 1907.

J. McMAHILL.
ROAD GRADER.

APPLICATION FILED MAY 22, 1906.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH McMAHILL, OF WALNUT GROVE, ILLINOIS.

ROAD-GRADER.

No. 849,079.

Specification of Letters Patent.

Patented April 2, 1907.

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To all whom it may concern:

Be it known that I, JOSEPH McMAHILL, a citizen of the United States, residing at Walnut Grove, in the county of McDonough and State of Illinois, have invented certain new and useful Improvements in Road-Graders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in road graders and scrapers; and my object is to provide a device of this class which can be easily and readily adjusted to direct the dirt in either direction.

A further object is to provide means for independently adjusting each side of the carrying device.

Other objects and advantages will be made hereinafter more clearly apparent, reference being had to the accompanying drawings, which are considered a part of this application, and in which—

Figure 1 is a top plan view of my improved road-scraper, and Fig. 2 is a sectional view as seen from the dotted line 2 2 in Fig. 1.

Referring to the drawings, in which similar reference-numerals designate corresponding parts throughout the several views, 1 indicates a pair of parallel rails which are spaced apart and secured together at one end by means of a bolster 3 and at their opposite or front end by means of a curved head 4, said curved head having an opening through the central portion thereof, through which is disposed a reach or coupling-pole 2, the opposite end of said pole being secured in any preferred manner to the bolster 3. That portion of the reach 2 extending beyond the curved head 4 is provided with a plate 2^a, which is preferably vertically disposed and provided with a plurality of openings or bores, to which is adapted to be adjustably secured a clevis 5, the clevis proper being disposed around a bolt 6, extending vertically through the front axle 7, said axle having mounted thereon suitable wheels 8. Each end of the bolster 3 is provided with upwardly-extending standards 9, between which is vertically disposed a bar 10, the standards 9 being so constructed that they form a socket for said bar 10, said bar being longitudinally movable in the socket.

Secured to the lower ends of the bars 10 and extending at right angles therefrom are

spindles or axles upon which are rotatably mounted carrying-wheels 11, the outer standards 9 having slots 9^a at their lower ends, through which take the spindles or axles 10^a. One edge of the bars 10 are provided with racks or teeth, with which is adapted to mesh pinions 12, said pinions being located between the standards 9 and mounted upon shafts 13, which project through the inner standards 9 and are provided on their inner ends with operating-wheels 14.

By this construction it will be seen that when the shafts 13 are rotated that the bolster 3 and parts carried thereby may be readily and quickly raised or lowered and that one end of said bolster may be raised or lowered independently of the other end.

Disposed at a suitable point below the rails 1 and reach 2 is a scraper 15, said scraper being secured to a bar 15^a below the rails 1 and reach 2, while a similar bar 15^b is disposed parallel with the bar 15^a and above the rails 1 and reach 2, the bars 15^a and 15^b being secured together at their outer ends in any preferred manner, while the bars and scraper are pivotally mounted in position by disposing a king-bolt 16 through the central portion of the bars 15^a and 15^b and through the reach 2, a bearing-plate 16^a being disposed across the top of the rails 1 and reach 2 and upon which the bar 15^b rests.

Extending forwardly from the upper end of the scraper 15 are arms 17, to the free ends of which are secured cables 18, said cables being oppositely disposed upon drums 19, carried by a shaft 20, said shaft being mounted upon the forward ends of the rails 1 and extending below the reach 2. A pinion 21 is disposed upon the shaft 20 and preferably at an equal distance from each end thereof, the upper edge of the pinion extending through an elongated slot 22 in the reach 2. Disposed longitudinally with the reach 2 and at an angle therewith is an operating-shaft 24, the lower end of the shaft being mounted in a suitable bearing in the forward end of the slot 22, while the opposite end thereof is supported by a standard 22^a. The shaft 24 is provided at a point immediately above the pinion 21 with a worm-gear 23, which is adapted to mesh with the teeth upon the pinion 21 and cause the drums 19 to rotate when motion is imparted to the shaft 24.

The shaft 24 is directed rearwardly a sufficient distance to dispose the operating-wheel 25 at the end thereof in juxtaposition to the wheels 14, so that the operator can reach
 5 any of the operating-wheels from a given point upon the rails 1, a platform 25^a being disposed across the rear end of the side rails, upon which the operator may stand while the scraper is being used, and it will be seen
 10 that by disposing the shaft 24 in line with the reach 2 and at an angle thereto that the lower end will be disposed in close relationship with the pinion 21, so that the gear 23 thereon will readily engage the pinion, while
 15 that end of the shaft containing the wheel 25 will be disposed a sufficient distance above the reach 2 to be readily accessible to the operator.

The clevis 5 is adjusted upon the plate
 20 2^a by means of a pin 27, which is adapted to be alternately disposed through the openings 26 in the plate, so that the forward end of the reach 2 and side rails 1 may be readily adjusted with respect to the front axles 7.

25 In operation the scraper being adjusted to the position shown in Fig. 1 the earth will be directed to the left end of the scraper; but should it be desired to direct the earth in the opposite direction the shaft 24 is rotated, and through the medium of the worm
 30 23 and pinion 21 the shaft 20 is rotated, thereby directing the cable on the left side of the reach upon its respective drum 19, while the cable upon the opposite side of the
 35 reach is released from its respective drum, thereby rotating the scraper 15 upon the king-bolt 16 until the scraper 15 is slanted in the opposite direction, so that the earth will be disposed to the right end of the
 40 scraper. It will also be seen that the shaft may be rotated until the scraper is at right angles to the rails 1, in which event the earth will be moved in front of the scraper instead of to one end thereof. It will also
 45 readily be seen that by providing the bars 10 and securing the axles 10^a thereto and disposing a pinion into engagement with the teeth upon the bars 10 that the rear ends of the rails 1 and reach 2 may be raised or lowered,
 50 as desired, thereby entirely disengaging the scraper from the earth or disposing the same to any preferred depth therein, and it will further be seen that by lowering one end of the bolster 3 that one edge of the
 55 scraper will be directed further into engagement with the earth than the opposite end thereof.

What I claim is—

1. A scraper of the class described comprising a pair of rails, a reach longitudinally

disposed between said rails, a head at the forward end of said rails, an axle adjustably secured to the forward end of said reach, a bolster rigidly secured to the rear ends of said reach and rails, standards carried by
 65 said bolster and forming sockets, bars longitudinally movable in said sockets, carrying-wheels secured to said bars, pinions disposed between said standards and in mesh with racks upon said bars, means to rotate
 70 said pinions whereby said bolster may be raised or lowered and a scraper operatively mounted on said rails and reach.

2. A scraper of the class described comprising a pair of parallel rails, a head at one
 75 end of said rails, and a bolster at the opposite end thereof, a reach disposed through said head and having its opposite end secured to said bolster, a scraper pivotally mounted upon said reach, a shaft secured to
 80 the forward end of said rails, drums on said shaft, cables disposed on said drums and into engagement with said scraper, a pinion secured to said shaft and projecting through a slot in the reach, an operating-shaft
 85 mounted upon said reach, a worm on said operating-shaft and in engagement with the pinion, whereby when said operating-shaft is rotated, the scraper will be disposed at varied angles.
 90

3. A scraper of the class described comprising rails, a reach longitudinally disposed between said rails, a scraper pivotally secured to said reach, a shaft at the forward
 95 end of said reach, drums rigidly secured to said shaft, arms projecting from said scraper, cables disposed between said drums and arms, means to rotate said drums, an axle adjustably secured to the front end of said reach, carrying-wheels for said axle, a
 100 bolster rigidly secured to the rear end of said rails and reach, standards carried by said bolster, said standards having sockets therein, bars longitudinally movable in said sockets, racks at the upper ends of said
 105 bars, carrying-wheels rotatably mounted upon said bars, pinions carried by said standards and in mesh with said racks upon the bars, and means to rotate said pinions independently of each other whereby each
 110 end of the bolster may be raised or lowered as desired.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH ^{his} X McMAHILL.
 mark

Witnesses:

ARTHUR W. STEACH,
 THOMAS E. BIRENS.