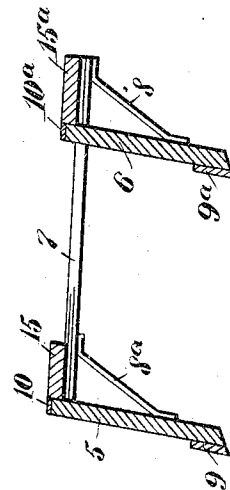
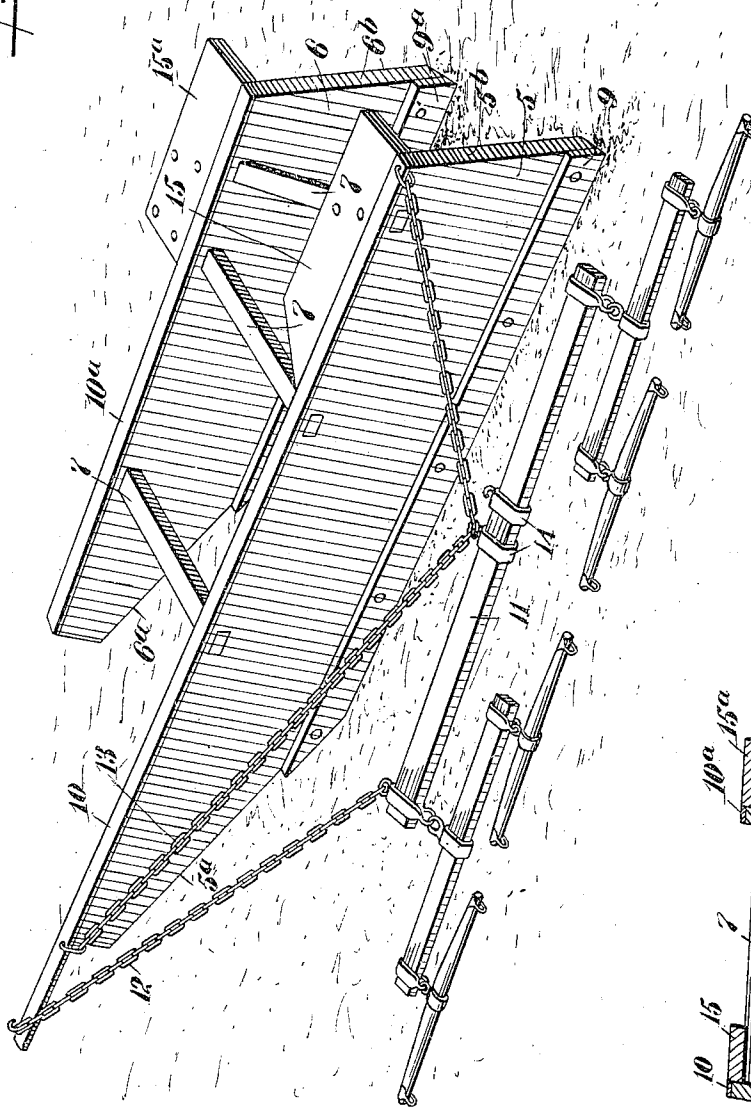


APPLICATION FILED AUG. 13, 1909.

Patented Feb. 15, 1910.



G. Robert Thomas
W. W. & S. S.

BY 
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH PENDLETON LUTES, OF BUFFALO, MISSOURI, ASSIGNOR OF ONE-THIRD TO
ROBERT L. COX AND ONE-THIRD TO JOHN S. WILSON, BOTH OF BUFFALO, MISSOURI.

ROAD-GRADER.

949,588.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed August 13, 1909. Serial No. 512,677.

To all whom it may concern:

Be it known that I, JOSEPH PENDLETON LUTES, a citizen of the United States, and a resident of Buffalo, in the county of Dallas and State of Missouri, have invented a new and Improved Road-Grader, of which the following is a full, clear, and exact description.

The invention is an improvement in road graders or drags, and has in view a device of this character in which each scraper takes care of its own dirt from the time it leaves the ditch until it is discharged at the center of the grade, thus avoiding the danger of clogging, and making the device easy of operation and light of draft. This I accomplish by constructing the grader with a front and rear scraper spaced apart and rigidly connected together, with the front scraper relatively longer than the rear scraper and each having a downwardly and inwardly-inclined discharge end, the opposite ends of the scrapers being preferably downwardly and inwardly inclined, to clear the curb or dirt at the side of the road, and arranged, when the scraper is thrown at the angle of travel, on a line substantially parallel to the road.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a perspective view of a road grader or drag constructed in accordance with my invention; and Fig. 2 is a cross-section through the scrapers.

In the construction of the road grader, I employ a front scraper 5 and a rear scraper 6, of substantial height and rigidly connected together in spaced relation by bars 7. The bars are arranged near the top of the scrapers, through which they pass, and are extended to the rear of the scraper 6, where they serve to fasten the upper ends of braces 8 connected to and reinforcing the rear scraper, similar braces 8^a extending between the connecting bars 7 and the front scraper to perform a like function. The scrapers instead of being arranged exactly vertical, incline downwardly and forwardly, as shown in Fig. 2, in order to add further strength to the grader and decrease the vibration. The front scraper is substantially longer than the rear scraper, and both have down-

wardly and inwardly-inclined discharge ends 5^a and 6^a respectively, with the discharge end of the front scraper extending beyond the discharge end of the rear scraper, and the opposite ends of the scraper preferably inclining downwardly and outwardly as indicated at 5^b and 6^b, in order to clear the curb or dirt at the side of the road, and arranged on a line approximately parallel to the road when the grader is thrown at the proper angle for operation. The scrapers have attached to their front faces at their lower edges, cutting blades 9 and 9^a respectively, the cutting blades having the bottom cutting edges, as shown in Fig. 2.

To the top edges of the scrapers are secured metal rails 10 and 10^a, with the rail 10 of the front scraper extending beyond its discharge end, at which point it is connected with one end of a tree 11 by a stay chain or cable 12, by which this end of the grader is controlled. The top rail 10 is further connected with the tree 11 at the center or one side thereof by a draft chain or cable 13, the latter being adapted to be engaged in any one of a number of hooks 14 arranged along the length of the tree. The tree 11 in the embodiment of the invention shown is a doubletree of a four-horse evenner, which will in practice be required in drawing the grader. However, this is not essential to the invention.

The connecting bars 7 adjacent to the ends 5^b and 6^b of the scrapers carry platforms 15 and 15^a respectively, the platforms adjoining the rear sides of the scrapers.

In the operation of the grader, the draft chain and stay chain are adjusted to cause the grader to travel at the required angle to the line of draft. The grader is then drawn along the road, with the inner ends of the cutting blades on a line with the gutter, in which position of the grader the inclined ends 5^b and 6^b of the scrapers clear the curb or dirt at the side of the road. The dirt as it is cut off and evened by the cutting blades, travels outwardly and is discharged toward the center of the road under the downwardly and inwardly inclined ends 5^a and 6^a of the scrapers, the dirt passing under the inclined end 5^a of the front scraper being deposited outwardly beyond the path of the discharge end 6^a of the scraper 6, whereby the scraper 6 will not again take up this dirt and clog the drag

in its travel. In this way each scraper takes care of its own dirt from the time it leaves the ditch until it is discharged toward the center of the road.

5 Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination in a road grader, of front and rear scrapers spaced apart and
10 rigidly connected together, each scraper having a downwardly and inwardly-inclined discharge end, with the discharge end of the front scraper extending outwardly beyond the discharge end of the rear
15 scraper.

2. The combination in a road grader, of front and rear scrapers spaced apart and rigidly connected together, a draft tree, a stay cable by which the outer end of the
20 machine is controlled, extending between the outer end of the front scraper and the adjacent end of the tree, and a drag cable connected to the opposite ends of the front scraper at a point intermediate the length
25 of the tree.

3. The combination in a road grader, of front and rear scrapers spaced apart and rigidly connected together, with the front scraper relatively longer than the rear scraper, each scraper having a downwardly
30 and inwardly-inclined discharge end, with the opposite ends of the scrapers arranged on a line approximately parallel to the line of draft.

4. The combination in a road grader, of
35 front and rear scrapers spaced apart and rigidly connected together, with the front scraper relatively longer than the rear scraper, each scraper having a downwardly and inwardly-inclined discharge end, with
40 the opposite ends of the scrapers inclining downwardly and outwardly.

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

JOSEPH PENDLETON LUTES.

Witnesses:

W. R. TRACY,

B. F. REA.