May 30, 1933. C. L. JORDAN 1,911,511

ROAD SCRAPER

Filed Oct. 29, 1929

Fig. 1.

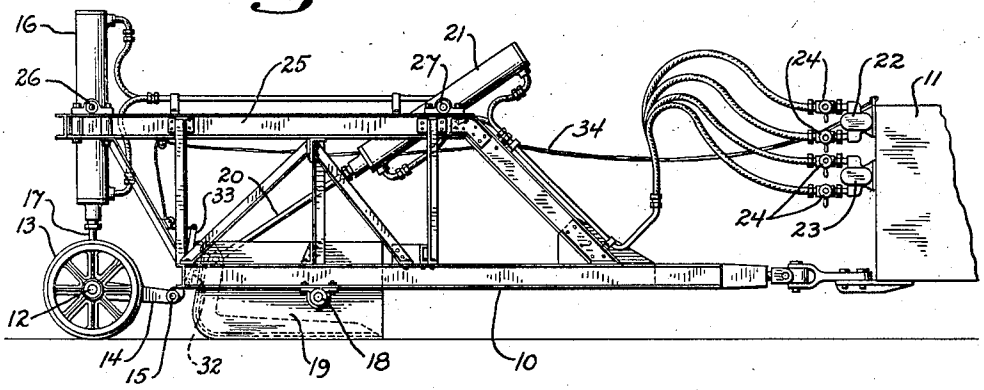


Fig. 2.

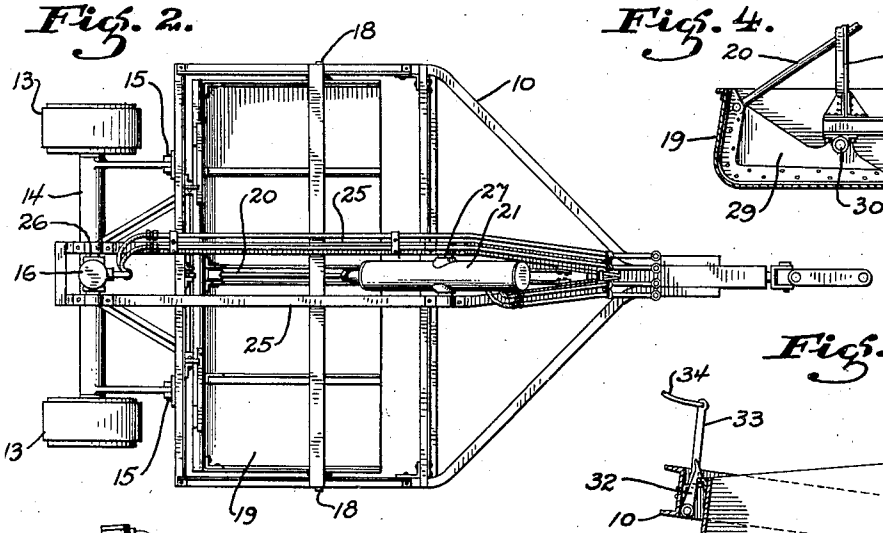


Fig. 4.

Fig. 5.

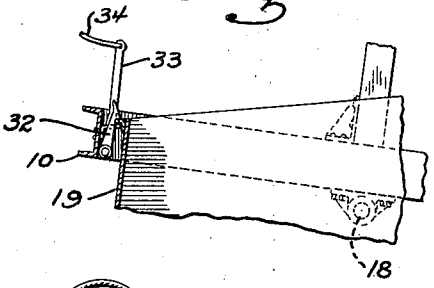
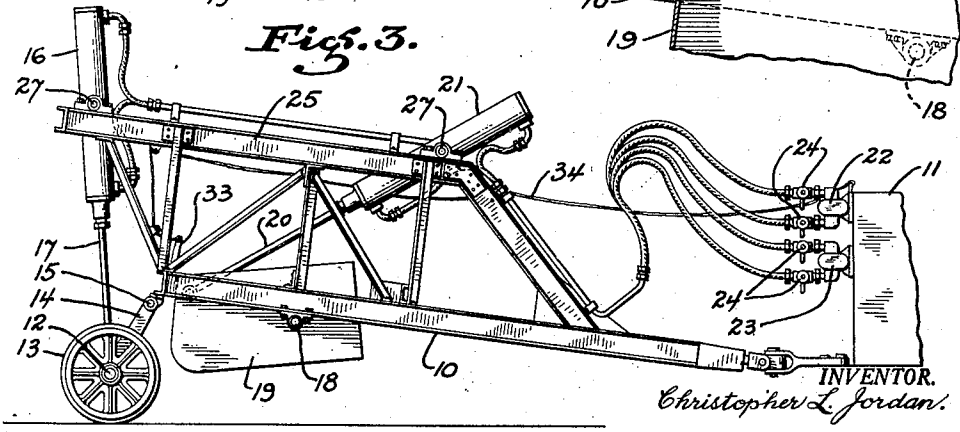


Fig. 3.



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UNITED STATES PATENT OFFICE

CHRISTOPHER L. JORDAN, OF BELMONT, CALIFORNIA

ROAD SCRAPER

Application filed October 29, 1929. Serial No. 403,219.

My present invention relates to a new and improved type of earth working machine and more particularly to a new and improved type of road scraper.

An object of my invention is to provide a new, improved and effective type of road scraper which is used in conjunction with a powerful tractor for the purpose of excavating and transporting earth from one place to another, as in the leveling of ground in building foundations and road building.

Another object of my invention is to provide a new and novel type of mounting for a scraper, whereby the same may be used in an effective and convenient manner with a tractor and one which may be operated with a minimum amount of human effort.

A further object of my invention is to provide a new and novel mounting for a scraper of the character above described, wherein the scraper may be elevated, lowered, and tilted to discharge its contents in an automatic and convenient manner.

Another object of my invention is to provide a novel type of wheel mounting for scrapers of the type contemplated by my invention, whereby the scraper may be effectively raised and lowered by the operator from a point upon the tractor.

Other objects and advantages of my invention will be in part pointed out and in part evident as the description proceeds.

For a better understanding of my invention, reference should be had to the accompanying drawing, wherein I have shown by way of illustration and not of limitation, a preferred modification of apparatus embodying my invention.

In this drawing—

Fig. 1 is a side elevation showing my improved scraper in its lowered and operative position,

Fig. 2 is a plan view taken from Fig. 1,

Fig. 3 is a view similar to Fig. 1, showing my improved scraper in its elevated position and out of contact with the ground, and

Figs. 4 and 5 are fragmentary views showing certain details of construction.

In the drawing, 10 designates generally a suitable framework which is adapted to be attached to the rear end of a suitable traction means 11. Attached to the trailing end of the frame 10, there is an axle 12 which carries suitable wheels 13. The axle 12 extends through a suitable frame 14 which is pivoted to the frame 10 at the point 15. Arranged above the axle 12, there is shown a fluid pressure cylinder 16, with which there is arranged a piston 17 which connects with the frame 14 pivotally at its mid point. Journaled upon the lower part of the frame 10, as at the point 18, I show a suitable scraper or scoop 19. Connected to the scoop 19 at its rear upper edge, I provide a piston rod 20 which, in conjunction with a piston upon the end thereof, is actuated by fluid pressure within a suitable cylinder 21. When the scoop 19 is in its normal or scraping position, the parts will be in the position substantially as illustrated, and when it is desired to dump the contents of the scoop 19, the latter will be tipped upwardly as the piston rod 20 is drawn into the cylinder 21, this in a manner well understood in the art. When the scoop 19 is being dumped, it will be understood that the piston rod 17 will have been extended from its cylinder 16 and, as a result, the frame 10 will be raised into its uppermost position, as illustrated in Fig. 3, so that the scoop under these conditions can be freely tilted by fluid pressure admitted to the cylinder 21.

As an operative means for actuating the pistons within the cylinders 16 and 21 in my present embodiment, I propose to provide suitable pumps 22 and 23, the pump 22 being connected with the cylinder 16 and the pump 23 being connected with the cylinder 21. These connections between the cylinders and pumps, above referred to, it will be understood, merely form a closed circuit through which oil or other noncompressible fluid may be circulated from one end of the cylinders to the other, so as to actuate the piston therein in the well known manner. Suitable valves 24 are also illustrated as disposed in the pipe connections between the pumps and the cylinders.

By referring to Fig. 2, it will be seen that

the frame 10 is built in rectangular form so that the scoop 19 may be freely suspended therewithin. It will also be noted that the upper portion of the frame 10 is formed of two spaced channel members 25, between which the cylinders 16 and 21 may be conveniently mounted in a pivotal manner respectively upon gimbal bearings 26 and 27.

A further feature of my invention which is important is in the fact that I provide, as illustrated in Fig. 4, a suitable drawbar 28 which is formed integrally with the forward end of the frame 10, so that the forces exerted by the frame upon the scoop 19 will be distributed between the pivotal points 18 at the ends thereof and the central drawbar 28. In other words, extending centrally into the scoop 19, I provide a suitable partition 29 and connect the drawbar pivotally to the partition 29, as at the point 30. A suitable strut 31 is also provided at this point which connects with the upper part of the frame 10.

In order to provide against an accidental dumping of the scoop, or the scoop becoming tilted by reason of contact with an obstacle, I also provide, as is illustrated in Fig. 5, a suitable latch 32 which may be actuated by means of an arm 33 and a pull cord 34 when it is desired to release the same. In order that the driver of the traction means may have complete control of my improved scraper, I propose to extend the pull cord 34 to a point upon the tractor where it may be conveniently grasped.

With the arrangements above described, it will be readily appreciated that I have provided in conjunction with my improved scraper a means of control whereby the same may be conveniently actuated by a single operator, who may at the same time control the traction means.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described and illustrated specific devices and arrangements, I desire to have it understood that this invention is not limited to the specific means disclosed but may be embodied in other ways that will suggest themselves, in view of this broad disclosure, to persons skilled in the art. It is believed that this invention is broadly new and it is desired to claim it as such so that all such changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. An excavating scraper comprising a frame adapted to be attached to a traction device and supported at one end thereby, a scraper pivotally mounted upon said frame for swinging movement from a scraping to a carrying position, a rolling support for the trailing end of said frame adapted to be raised and lowered with respect thereto for the purpose of lowering and raising said frame with respect to the ground, hydraulic means upon said frame connected with said scraper, whereby the latter may be rocked about its pivots to discharge its contents when said frame is raised and latch means for maintaining the scraper in its carrying position.

2. In an excavating scraper, the combination of a frame adapted to be attached to a traction device and supported at one end thereby, a scraper journaled at its ends transversely of said frame, a central partition extending into said scraper, a drawbar pivoted with relation to said partition and connected to the frame and a support member connected to the drawbar at a point adjacent said pivot and to the frame.

3. An excavating scraper comprising, a frame adapted to be attached to a traction device and supported at one end thereby; a scraper pivotally mounted upon said frame for swinging movement from a scraping to a carrying position, a rolling support for the trailing end of said frame adapted to be raised and lowered with respect thereto for the purpose of lowering and raising said frame with respect to the ground; fluid pressure means connecting said frame and said scraper whereby the latter may be rocked about its pivots to discharge its contents, and means for maintaining the scraper in its carrying position.

4. In a device of the character described, a frame pivotally connected adjacent one of its ends to a tractive device, a hydraulic apparatus connecting the other end of the frame to a rolling support and adapted to adjust the frame relative to the rolling support, a scraper box pivotally connected to the frame, and a hydraulic apparatus connecting the scraper box to the frame to adjust it about its pivot.

CHRISTOPHER L. JORDAN.