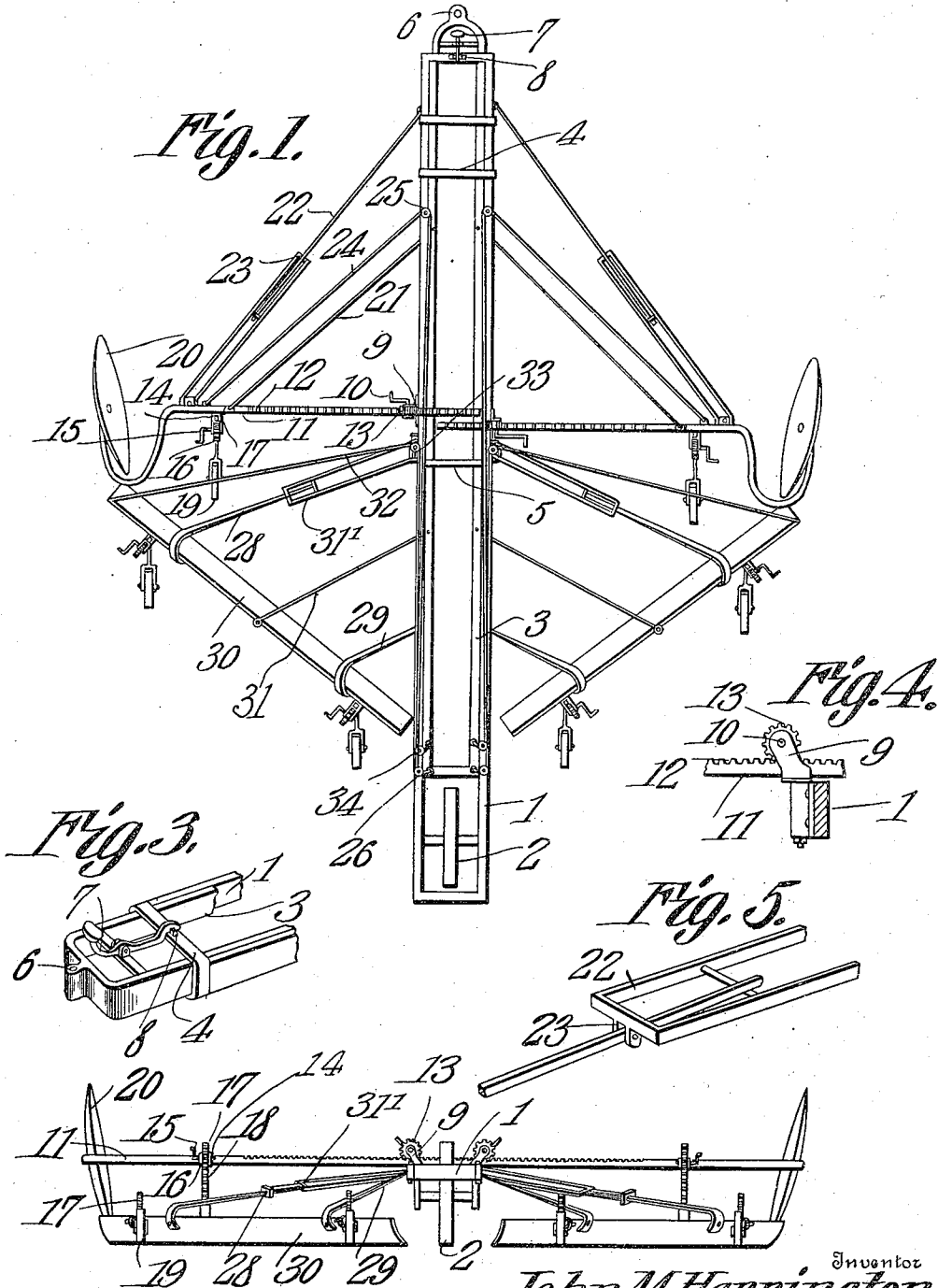


J. M. HARRINGTON.
ROAD SCRAPER.
APPLICATION FILED JUNE 3, 1909.

950,171.

Patented Feb. 22, 1910.



Witnesses
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Fig. 2

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UNITED STATES PATENT OFFICE.

JOHN M. HARRINGTON, OF EDGERTON JUNCTION, MISSOURI.

ROAD-SCRAPER.

950,171.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed June 3, 1909. Serial No. 499,909.

To all whom it may concern:

Be it known that I, JOHN M. HARRINGTON, a citizen of the United States, residing at Edgerton Junction, in the county of Platte and State of Missouri, have invented a new and useful Road-Scraper, of which the following is a specification.

This invention has relation to road scrapers, and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a scraper as indicated which consists, primarily, of a main frame or spine having a draft beam slidably mounted thereon, and outriggering arms and standards connected with the said frame. Means is provided for operatively connecting the said outriggering arms and standards with the sliding beam upon the frame, so that when the beam is moved longitudinally with relation to the frame the outriggering arms and standards are drawn toward the frame, while, when the said draft beam is telescoped within the frame, the said arms and standards are extended laterally with relation to the frame. The arms carry cutting members such as disks, while the standards carry a scraper blade. The arms are pivotally connected at their inner ends to the frame, and means is provided for extending or drawing in the said arms with relation to the frame.

In the accompanying drawings:—Figure 1 is a top plan view of the scraper. Fig. 2 is a rear end elevation of the same. Fig. 3 is a perspective view of a catch mechanism used upon the scraper. Fig. 4 is a transverse sectional view of a portion of the frame of the scraper showing a bracket and adjacent parts located thereon. Fig. 5 is a perspective view of the intermediate portions of jointed brace used upon the scraper.

The scraper consists of a main frame or spine 1 which is supported at its rear portion upon a ground wheel 2. A beam or supplemental frame 3 is slidably mounted upon the main frame 1 and is confined to longitudinal movement with relation thereto by means of guides 4 carried by the main frame, and is limited in its longitudinal movement by means of a stop 5, which is also carried by the main frame 1 and is adapted to engage the rear end of the beam 3 when the said beam is projected forwardly

with relation to the main frame 1. An eye or clevis 6 is located at the forward end of the beam 3 and to which any draft means may be attached. A lever 7 is fulcrumed upon the beam 3 and is provided with a catch or pin 8, which is adapted to engage one of the guides 4 mounted upon the frame 1 and which serves as a means for holding the beam 3 against longitudinal movement with relation to the frame 1.

Brackets 9 are pivotally attached to the frame 1, and crank shafts 10 are journaled for rotation in the said brackets. The said shafts 10 are provided with pinions 13. Arms 11 pass through the said brackets 9 and are provided with gear teeth 12, which mesh with the teeth of the pinions 13. Brackets 14 are fixed to the outer portions of the arms 11, and the shafts 15 are journaled in the brackets 14, and pinions 16 are mounted upon the shafts 15. Standards 17 pass vertically through the brackets 14 and are provided with gear teeth 18 which engage the teeth of the pinions 16. Wheels 19 are freely casted at the lower ends of the standards 17. Disks 20 are journaled for rotation at the outer extremities of the arms 11. Rods 21 are pivotally connected at their forward ends with the beams 3 and are pivotally connected at their opposite ends with the arms 11. Jointed braces 22 are connected at their forward ends with the frame 1 and at their rear ends with the outer portions of the arms 11. Each said brace is provided at an intermediate point with a joint indicated at 23, (see Fig. 5) which joint is approximately the same as that which pivotally connects the blade of a pen-knife with its handle or an elbow joint of the human arm. Consequently, the said joint is free to break or swing in one direction, but is held rigid in other directions. An adductor 24, (preferably in the form of a flexible cable) is attached at one end to each of the outer portions of the arms 11 and passes around a pulley 25 located at the forward portion of the frame 1, thence back around a pulley 26 located at the rear portion of the frame 1, and is attached to the beam 3.

Behind the arms 11 standards 28 and 29 are pivotally connected at their inner ends with the frame 1. At their outer ends the said standards 28 and 29 at the same side

of the frame 1 carry a scraper blade 30. The standards 28 are provided with hinge joints 31', similar to the joints 23 heretofore described. Also the scraper blades 30 are provided with standards 17 and freely casted wheels 19, similar to those heretofore described. Rods 31 are pivotally connected at their forward ends with the beam 3, and are pivotally connected at their rear ends with the scraper blades 30 at points intermediate of the ends thereof. Adductors or cables 32 are connected at their forward outer ends to the forward end portions of the scraper blades 30 and pass around pulleys 33 journaled upon the frame 1, and thence extend rearwardly and pass around pulleys 34, journaled at the rear portion of the said frame and connect with the beam 3.

From the above description it will be seen that, by rotating the shafts 10, the arms 11 may be moved longitudinally in lateral direction with relation to the frame 1, and, consequently, the disk 20 may be positioned at any desired distance from the said frame.

It will also be seen that when the scraper is moving in a straightforward direction, or when it is desired to bring the outer portions of the arms 11 and the scraper blades 30 toward the spine or main frame 1 of the implement, an operator may swing the lever 7 whereby the catch 8 is disengaged from the guide 4 upon the frame 1, and, consequently, the beam 3 is free to move longitudinally with relation to the said frame 1, until its rear end comes into contact with the stop 5. This relative longitudinal movement upon the part of the beam 3 moves the rods 21 and 31 longitudinally, which, in turn, swing the outer portions of the arms 11 and the scraper blades 30 toward the side of the frame 1. When the arms 11 and the scraper blades 30 swing toward the frame 1, as above indicated the joints 23 and 31' permit the braces 22 and 28 to swing together at their ends. At the same time that the beam 3 moves longitudinally with relation to the frame 1, the adductors 24 and 32 are moved longitudinally, and their rear ends are carried in a forward direction by the said beam 3; consequently, the said adductors do not become slack, but further facilitate the drawing in of the outer portions of the arms 11 and the scraper blades 30.

When it is desired to extend the arms 11 and the scraper blades 30 with relation to the frame 1, the beam 3 is slipped longitudinally within the frame 1 and, through the said rods 21 and 31, the outer portions of the arms 11 and the scraper blades 30 are forced in an outward direction, and the adductors 24 and 32 move longitudinally in directions opposite from those directions in which they move when the outer portions of the arms 11 and the scraper blades are swung toward the frame 1.

By adjusting the standards 17 vertically the disk 20 and the scrapers 30 may be positioned at desired distances with relation to the surface of the ground.

This implement is designed especially to be used for grading the surfaces of roads, and, when in operation, it will be seen that the disks, 20 will cut at the sides of the road or in the ditches thereof, and that the earth thus removed is thrown back into the paths of movement of the scrapers 30, which, in turn, convey the same to the center or middle of the road and forms the crown thereof. By such an arrangement the blades may be positioned at desired distances with relation to each other when the scraper is operating upon the surface of a road, and also when the scraper, as an entirety, is being transported along the road, the arms and standards may be brought toward the frame, whereby the implement may be readily passed along the road.

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

1. A scraper comprising a main frame, a draft beam telescopically mounted thereon, an outrigger scraper blade pivotally connected with the main frame, and means connecting the said scraper blade with the beam to move the scraper laterally with relation to the frame, when the said beam moves longitudinally with relation to the frame.

2. A scraper comprising a main frame, a draft beam telescopically mounted thereon, an outrigger scraper pivotally connected with the main frame, an inflexible rod pivotally connected at one end with the scraper, and at its other end with the beam, and a flexible adductor connected at one end with the scraper, and at its other end with the beam and pulleys mounted upon the main frame around which the said adductor passes.

3. A scraper comprising a main frame, a draft beam telescopically mounted thereon, an outrigger scraper pivotally connected with the main frame, means operatively connecting the scraper with the draft beam to move the scraper laterally with relation to the frame, when the beam moves longitudinally with relation thereto, an outrigger arm connected with the main frame, a disk journaled to said arm, and means operatively connecting the said arm with the said beam to swing the said arm laterally with relation to the main frame, when the said beam moves longitudinally with relation to the frame.

4. A scraper comprising a main frame, a draft beam telescopically mounted thereon, an outrigger scraper blade connected with the frame, means for moving the scraper blade laterally when the beam moves longitudinally with relation to the frame, an arm carrying a digger attached to the frame, and

means for moving the said arm laterally when the beam moves longitudinally with relation to the frame.

5 5. A scraper comprising a main frame, a beam telescopically mounted thereon, a scraper blade pivotally connected with the frame, means for moving the scraper blade laterally as the beam moves longitudinally with relation to the frame, an arm pivotally connected to the frame, a digger carried

by the arm and means for swinging the arm with relation to the frame as the beam moves longitudinally with relation thereto.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature 15 in the presence of two witnesses.

JOHN M. HARRINGTON.

Witnesses:

A. O. HAMILTON,
EDWIN THATCHER.