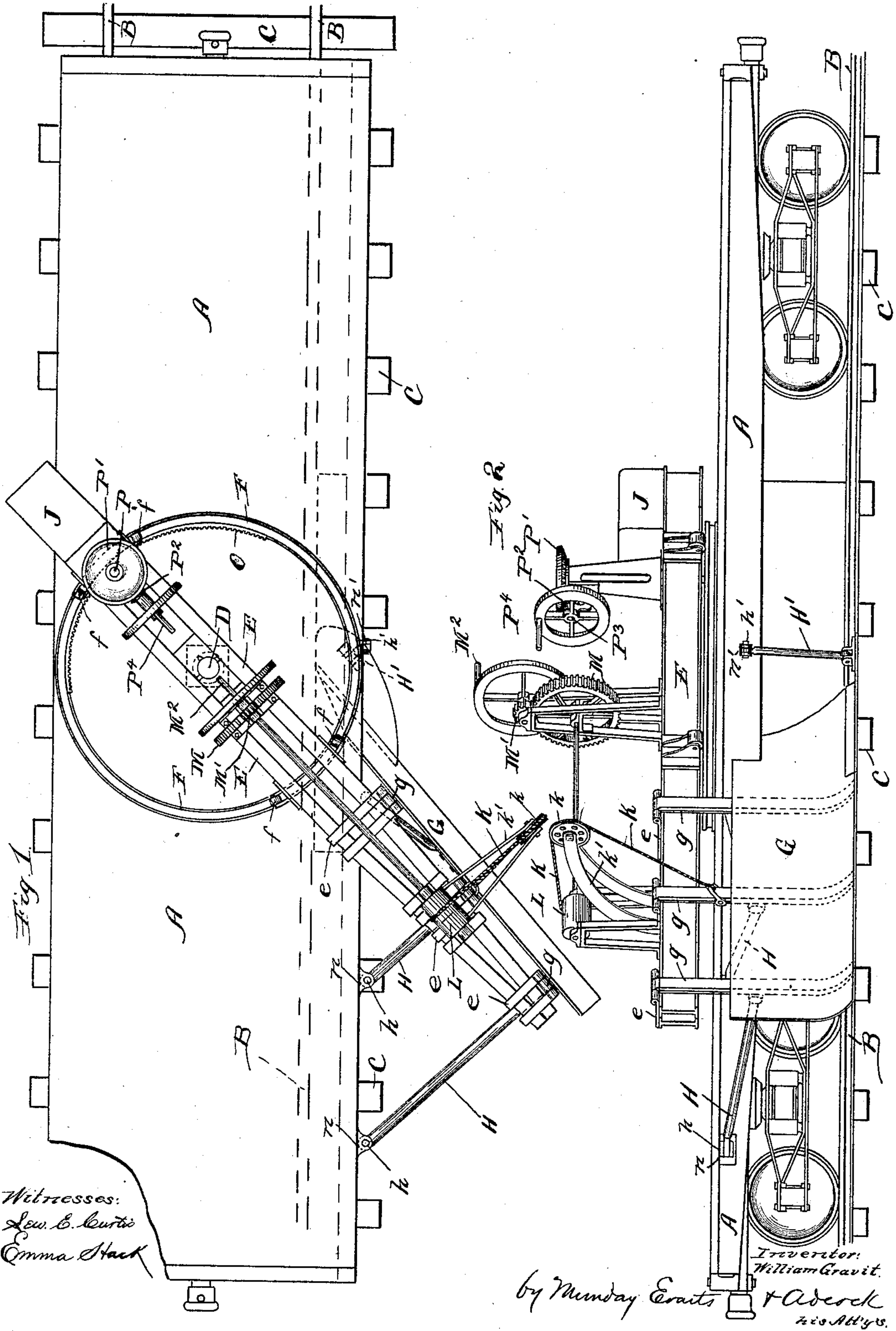


(No Model.)

W. GRAVIT.
RAILROAD EARTH SCRAPER.

No. 452,130.

Patented May 12, 1891.



UNITED STATES PATENT OFFICE.

WILLIAM GRAVIT, OF ELKHART, INDIANA, ASSIGNOR TO HIMSELF AND
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RAILROAD EARTH-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 452,130, dated May 12, 1891.

Application filed May 19, 1890. Serial No. 352,332. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRAVIT, a citizen of the United States, residing in Elkhart, in the county of Elkhart and State of Indiana, have invented a new and useful Improvement in Railroad Earth-Scrapers, of which the following is a specification.

This invention relates to an apparatus designed for the purpose of shifting earth and gravel which has been unloaded from railroad-cars at the side of the track and moving the same outward away from the track. It is especially useful in widening embankments—as, for example, in the construction of double-track railroads, where the embankment for a single track is first built and the track laid, and then the embankment widened for a second track, for a spur, or for other purpose.

The improved apparatus consists in providing a railroad-car with a laterally-projecting mold-board extended diagonally from a point near the outer side of the rail out away from the car and having such form as to furrow the earth outward and shove it away from the track, combined with features of construction and appliances as hereinafter more particularly described and claimed. This car plow or scraper is operated by the power of the locomotive which draws it along the track. For convenience it may be attached to the rear of the train from which the gravel or earth has just been unloaded, so that after unloading the train may be started up and the scraper will do its work of shoving the earth out to the desired position.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a plan view of my improved car plow or scraper, and Fig. 2 is a side elevation of the same.

In said drawings, A represents the car, which may consist of an ordinary platform-car. B are the rails, and C C the ties or sleepers. Upon this car is shown a central pivot D, on which is mounted a frame E, that may be composed of I-beams joined together by cross bars or braces e.

To facilitate the swinging or turning of the

frame-work or beam E, there is provided a circular track F on the car and rollers *f* on the frame or beam. To this beam E is attached the mold-board G, suspended by the arms *g g*, which are hinged to the beam in such manner that the mold-board may be lifted up above the surface of the car-platform. Hinged to the two outermost arms *g* are braces or struts H H, secured to the side of the car by removable pins *h h*. Hinged to the point of the plow or scraper is a third brace or strut H', secured to the car by a removable pin *h'*. At the other end of the beam E from that to which the plow is suspended is a counterpoise-weight J to balance the weight of the plow and beam. A rope or chain K, connected to the plow, passes up over a pulley *k* on the derrick *k'* and is attached to the winding-drum L, which latter is operated by power-gearing M M' and crank M², all mounted on the beam E, so that when the struts H H H' are released from the car by the removal of the pins *h h h'* the plow may be hoisted up above the level of the car-platform by turning the crank M² and maintained in this elevated position to permit the beam to be swung in over the car ready to be transported to any desired point, and also the beam with its plow may be thus swung around to project from the other side of the car to operate upon earth deposited on the other side of the track.

To facilitate the swinging of the beam and its attached plow, I provide the circular track F with an internal gear O, into which meshes a pinion on the lower end of the shaft P. This pinion is not shown in the drawings. The shaft P is mounted on the beam E and at its upper end carries a beveled gear P', meshing with the beveled gear P² on the crank-shaft P³, to which is secured the crank P⁴. By turning the crank P⁴ the beam is caused to swing around in a circle on its pivot D. Sockets similar to the sockets *n n n'*, carried on the car side, and to which the beams H H H' are secured by the pins *h h h'*, are located on both sides of the car in proper position to secure the plow when projected to either side.

The mold-board, as shown in the drawings, is made with the point or toe horizontal for a

short distance to slide just over the ties. The body of the mold-board is curved at its lower portion to approach the horizontal and from thence up to the vertical. As shown in the drawings, the mold-board is adapted to remove the earth about eight feet away from the track. Where it is desired to give a peculiar contour to the embankment, the mold-board may be shaped to produce this result.

10 The operation is as follows: The earth having been dumped at the edge of the track from the gravel-train, my improved car is prepared for operation by swinging the plow-beam E out from over the platform, lowering

15 the mold-board into position, and securing it by the braces. The locomotive is then started up, and the earth, by contact with the mold-board, is lifted and shoved out by the angular contact of the mold-board therewith. It

20 should also be noted that the internal gear O, which is shown in the drawings as consisting of a segment, a part of it being broken away by the draftsman, in practice is made to extend in a full circle entirely around the

25 track.

I claim—

1. The combination, with the railroad-car A, of mold-board G, hinged to the beam E, said beam E being pivoted to the car, braces

detachably connected from the mold-board to the car, and a hoisting-drum carried on the beam E and connected to the mold-board for hoisting the same, substantially as specified. 30

2. The combination, with the railroad-car A, of mold-board G, hinged to the beam E, said beam E being pivoted to the car, braces detachably connected from the mold-board to the car, and a hoisting-drum carried on the beam E and connected to the mold-board for hoisting the same, a circular track on the platform of the car, and rollers on the beam, substantially as specified. 35 40

3. The combination, with the railroad-car A, of mold-board G, hinged to the beam E, said beam E being pivoted to the car, braces detachably connected from the mold-board to the car, and a hoisting-drum carried on the beam E and connected to the mold-board for hoisting the same, a circular track on the platform of the car, and rollers on the beam, a circular gear on the car, and gearing on the beam meshing therewith for swinging said beam, substantially as specified. 45 50

WILLIAM GRAVIT.

Witnesses.

CHARLES S. HENDERSON,
CHARLES C. NEEDHAM.