A. W. HODGE.

ROAD DRAG.

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1,182,272. Patented May 9, 1916.

Fig. 1

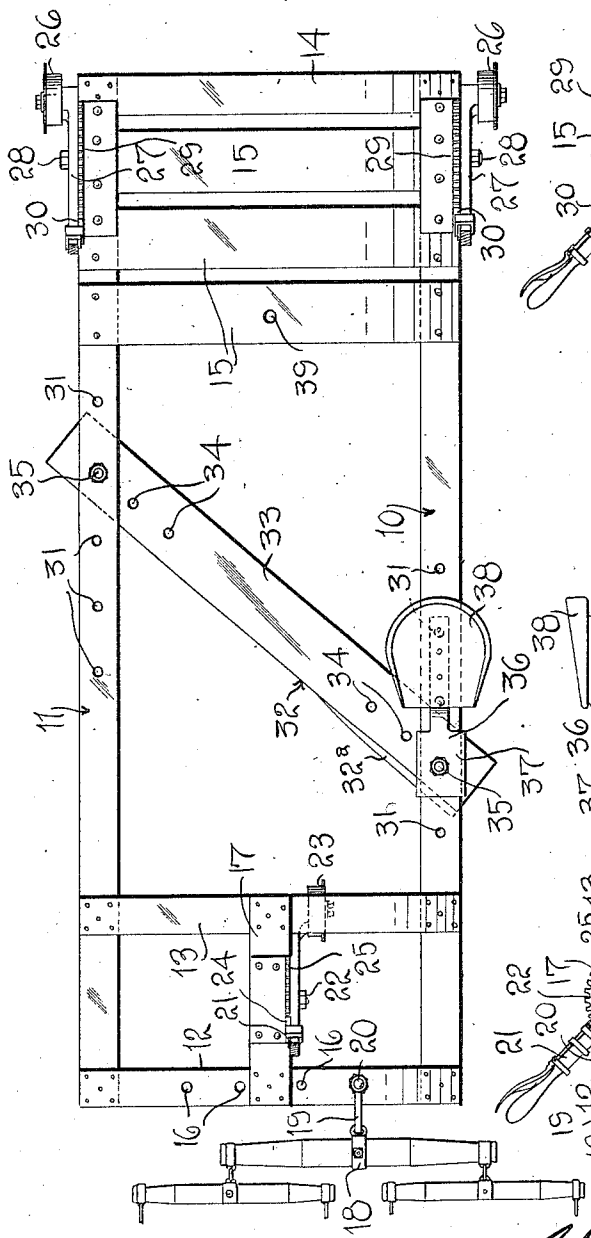
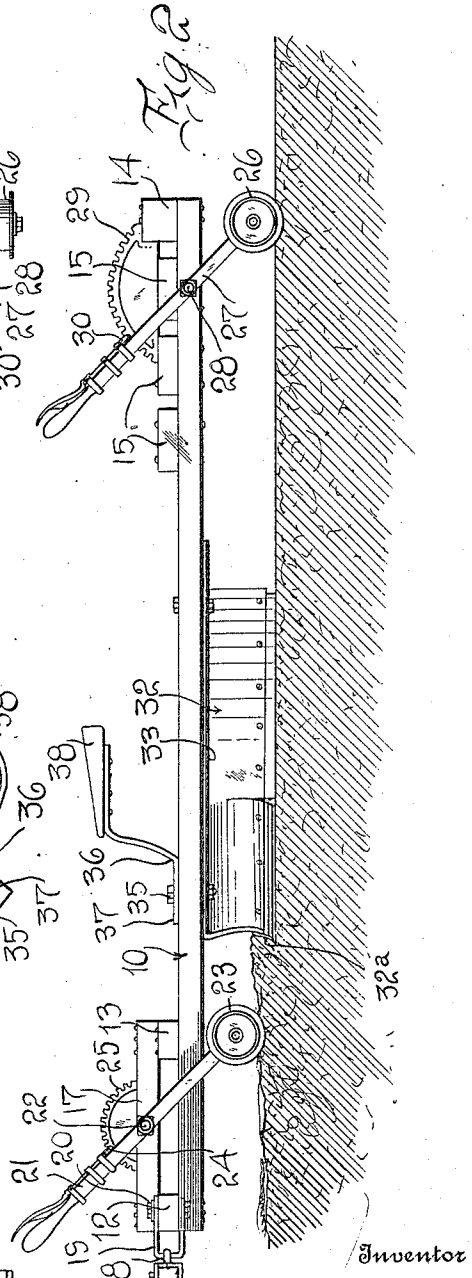


Fig. 2



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ROAD-DRAG.

1,182,272. Specification of Letters Patent. Patented May 9, 1916.

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To all whom it may concern:

Be it known that I, ARBY W. HODGE, a citizen of the United States, residing at Cromwell, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Road-Drags, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to devices for surfacing roads, and particularly to that class of devices known as "road drags."

The general object of this invention is the provision of a road drag which is so constructed that it will crown and level all dirt roads by scraping off elevations in the road and filling up ruts, chuck holes and mud holes.

Specifically considered, the objects of my invention are the provision of a very simple, cheaply made but rigidly constructed road drag in which the scraping blade is angularly adjustable by very simple means and in which the weight of the driver may be disposed over the blade forward of or rearward of the blade or upon the rear end of the drag.

Still another object of my invention is to provide very simple means whereby the drag platform with the scraper may be adjusted at an inclination to the horizontal plane, and whereby either side of the drag may be lowered and the other side relatively raised, or whereby the forward end of the drag may be raised and the rear end lowered, or whereby the platform and the scraper may be entirely raised so as to dispose the scraper above the road.

A further object of the invention is to so form the scraper blade that it will cut the sod at the side of the road and to provide for an adjustment of the blade whereby it may cut a small ditch on the side of the road for drainage purposes.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of my improved road drag; Fig. 2 is a side elevation thereof.

The frame of my drag comprises the side beams 10 and 11 connected at their forward ends by means of the transverse beams 12 and 13 and at their rear ends by means of the transverse beam 14. Boards 15 are disposed across the beams 10 and 11 at the rear end of the frame so as to form a floor rearward of the scraper.

The forward transverse beam 12 is formed with a plurality of perforations 16 disposed on each side of a middle longitudinal connecting brace or beam 17, and these perforations 16 permit the attachment of a double-tree 18 on either side of the draft line of the drag. This double-tree 18 is illustrated as connected to the beam 12 by means of a clevis 19 and bolt 20.

Mounted upon the longitudinal beam 17 is a lever 21 which is pivoted to the beam 17 by means of a bolt or other suitable connection 22, this lever extending downward and carrying at its lower end the flanged wheel 23 which is adapted to bear upon the road. This lever may be held in any angularly adjusted relation by means of the ordinary latching bolt 24 engaging with the rack 25 supported upon the beam 17. The rear end of the frame is supported by means of the flanged wheels 26 each mounted upon a lever 27. These levers are each pivoted to the rear ends of the corresponding beams 10 and 11 by the pivot bolt 28 and are each held in their adjusted positions by means of a rack 29 and a hand-operated latch 30 of any usual or approved construction.

The beams 10 and 11 are each formed with a series of perforations 31, and mounted below the beams 10 and 11 and supported by bolts passing through these perforations is a scraper designated 32. This scraping blade is angular in cross section and formed with a rearwardly extending flange 33 which is also perforated at a plurality of points adjacent each end, as at 34. The scraper is held upon the beams 10 and 11 by means of bolts 35 which pass through the perforations 31 and the perforations 34. By this means the blade may be angularly adjusted at any desired degree of shear and may also be set rearward or forward upon the supporting frame.

It will further be noted that the blade is transversely adjustable as well as angularly and longitudinally adjustable by reason of the fact that the flange 33 is formed with a plurality of perforations 34 and that the side bars of the supporting frame are also formed with a plurality of perforations 31. Thus the blade may be set to project considerably to one side of the supporting frame or set in the middle of the supporting frame and, of course, adjusted to any angle.

Thus in cutting gutters by means of the curved portion 32ª of the blade, it is possible to set the blade over to one side of the frame so that the frame may remain upon the roadway proper and the blade will cut the gutters or channels at the side of the road.

The perforations 31 also provide means whereby the seat supporting bar may be adjustably mounted upon either one of the beams 10 or 11. As illustrated, this seat supporting bar, which is designated 36, is mounted upon the beam 10. The seat supporting bar is preferably formed at its lower end with a relatively wide, flat base 37, through which one of the bolts 35 may pass so as to hold the bar in position. When the seat supporting bar or bracket is not disposed immediately over the blade 32, that is, over the flange 33 of the blade, another bolt will be used for the purpose of holding the bolt or bar in place as will be of course understood. The bar supports the seat 38. It will be obvious that the seat may be thus placed either upon the beam 10 or the beam 11 and may be adjusted longitudinally along this beam so that the weight of the driver will come immediately over the scraper blade or rearward of the scraper blade or on one side or the other of the machine as circumstances dictate. This seat supporting bar may also be attached to the rear end of the machine, if desired, by passing the bolt thereof through the perforation 39 formed in any one of the transverse members 15.

The advantages of my construction are as follows: The provision of a plurality of perforations 16 permits the adjustment of the double-trees so that there is no side draft when the cutting blade is shifted at different angles. The frame formed by the members 10 and 11 is from four to eight feet wide and from eight to twelve feet long, thus being approximately twice as long as it is wide. This is for the purpose of placing the supporting wheels 23 and 26 a sufficient distance from the blade so that if there is a rise in the road the weight of the drag and also the weight of the driver will be on the blade, while on the other hand, if there is a low place in the road the wheels will carry the blade over the hollow and the blade will not move down into the hollow. Where the blade is carried over the hollow the dirt carried in front of the blade falls into the hollow and fills it up. The blade is intended to be made of heavy steel and preferably the major portion of the blade is vertical. One end of the blade, however, this end being designated 32ª, is curved or rearwardly bowed instead of vertical so that the blade will act to cut the sod at the side of the road. It is obvious that the blade may be adjusted at different angles and that by so adjusting the blade the drag will work perfectly in all kinds of soil, from white sand to the stickiest and heaviest of clay and further by changing the slant of the blade the shape of the crown given to the road may be readily changed. By means of adjustable wheels 23 and 26 it is possible to so gage the entire blade that it will operate properly upon the softest or hardest of soils. The blade cuts no deeper nor no less deep than it is intended by the driver. Further, by adjusting the wheels through the instrumentalities of the levers connected thereto, the drag can be so adjusted as to make the road perfectly level or the road may be crowned to any desired height, and furthermore, small ditches may be cut out at the side of the road to drain the water from the sod. This may be accomplished by raising one side of the frame to its greatest height and lowering the other side to a maximum degree, whereupon the curved end 32ª of the straightening blade will alone cut into the ground.

Where the drag is intended to be operated on hard ground, the seat 38 can be placed directly over the cutting blade so that all the weight of the driver and practically all the weight of the drag is on the blade, or the seat may be placed upon the rear platform in case the drag is operating in soft or loose earth, so that the weight of the driver is carried on the rear wheels and practically none of it is carried upon the blade. The seat can also be shifted from one side of the drag to the other and shifted forward or rearward of the blade to suit any desired circumstance of operation.

The wheels 23 and 26 are flanged so that the drag shall run smoothly in case of the blade striking a small stone or root. By flanging the wheels the drag is prevented from skidding under these circumstances. Preferably the blade is made in two pieces so that when the lower part of the cutting blade becomes worn it can be replaced by a new cutting edge.

Having described my invention, what I claim is:

1. A road drag comprising a supporting frame including lateral beams and transverse beams, the lateral beams being formed each with a plurality of perforations, and a scraping blade having a rearwardly extending flange at its upper end provided with a plurality of perforations adjacent each end, and bolts passing through said perforations and through the perforations of the beams whereby the scraping blade may be longitudinally angularly and transversely adjusted by bodily movement.

2. In a road drag, a quadrangular supporting frame including side members and end members rigidly connected to each other, a blade mounted upon said side members for longitudinal adjustment therealong, for

angular adjustment and for transverse adjustment, the blade being supported immediately beneath and in engagement with said side members, a platform extending across the rear end of the frame, a seat adapted to be detachably mounted upon either one of the side members of the frame and longitudinally adjustable along said side members, a pair of supporting wheels at the rear end of the frame, means whereby these supporting wheels may be vertically adjusted relative to the frame and independently of each other and a supporting wheel at the forward end of the frame, and means whereby it may be vertically adjusted relative to the frame.

3. In a road drag, a supporting frame, a blade having a vertical portion disposed in one plane for the greater portion of the length of the blade, said blade adjacent one edge being formed with a rearwardly concave portion, the blade having a cutting edge disposed in one plane for its entire length, and the blade for its entire length having a rearwardly extending upper flange engaging directly with the supporting frame of the drag.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ARBY W. HODGE.

Witnesses:
WILLIAM H. WIGTON,
BESSIE A. CLAWSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."