Sept. 9, 1924.

1,507,833

J. B. JARMIN

ROAD SCARIFIER

Filed Dec. 10, 1921

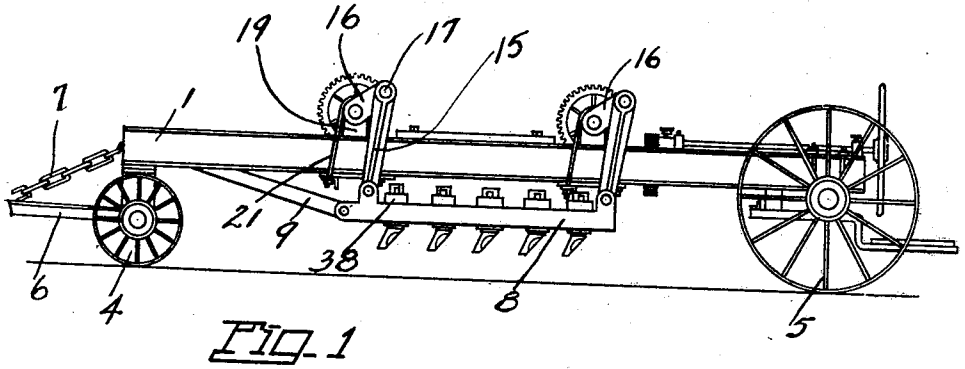


Fig. 1

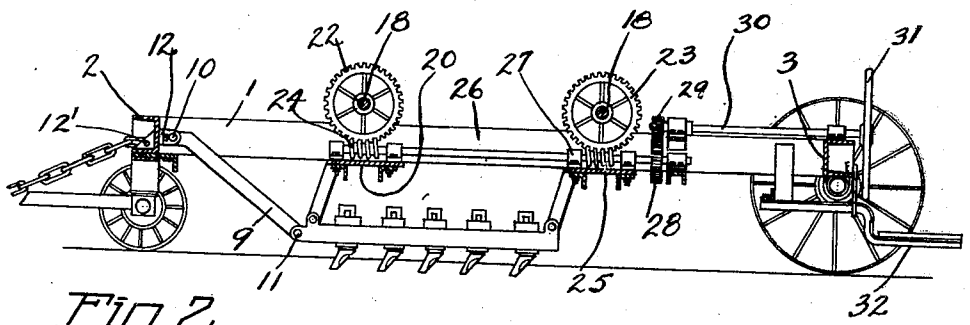


Fig. 2

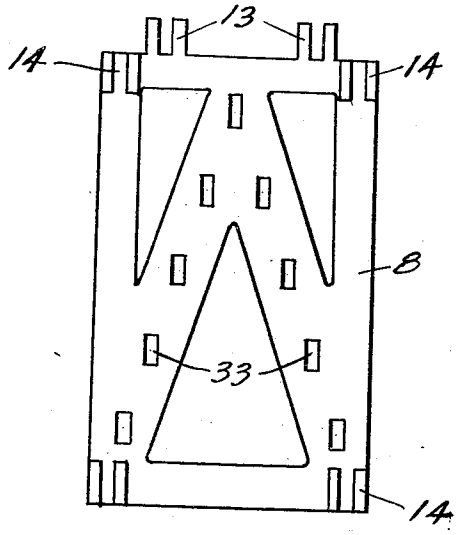


Fig. 3

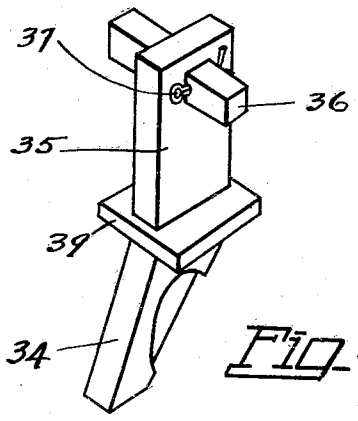


Fig. 4

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UNITED STATES PATENT OFFICE.

JAMES B. JARMIN, OF SPOKANE, WASHINGTON.

ROAD SCARIFIER.

Application filed December 10, 1921. Serial No. 521,356.

To all whom it may concern:

Be it known that I, JAMES B. JARMIN, a citizen of the United States, residing at Spokane, in Spokane County and State of Washington, have invented certain new and useful Improvements in Road Scarifiers, of which the following is a specification.

My present invention relates to improvements in road scarifiers of the wheel type designed for scraping and leveling the surface of road ways, to remake or resurface the roads, and remove the ridges and fill the hollows.

The primary object of my invention is the provision of a comparatively inexpensive implement of this character which may be hauled over the roadway by a tractor, or by horse power, which is designed for leveling the road surface, and is provided with means for adjusting the depth of the cut of the scrapers or scarifiers, and which implement may with facility be operated as will be described hereinafter.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein I have shown the parts combined and arranged according to the best mode I have so far devised for the practical application of the principles of my invention.

Figure I is a side elevation of a wheeled scraper embodying the novel combinations and arrangements of my invention.

Figure II is a longitudinal vertical central sectional view of the implement in Fig. I.

Figure III is a plan view of the base plate of the implement.

Figure IV is a perspective view enlarged, of one of the scraper teeth.

In the preferred form of my invention as illustrated in the drawings I have shown the main frame or body of the implement comprising a pair of longitudinal I-beams 1 which are connected at the front and rear by transverse channel plates 2 and 3. These parts are riveted or bolted together to form a rigid structure which is supported upon the front swivel truck 4 and the rear stationary truck 5.

By means of the draft tongue or draw bar 6 coupled to the two-wheel steering truck, the implement may be hauled by an attached motor tractor. In addition to the draft tongue I employ a draft chain which is attached to the body or main frame of the implement in order that the strain or pull on the implement may be uniformly distributed and balanced.

The implement as shown is mounted upon a long wheel base, and between the wheels is suspended a drop plate 8. This plate is preferably of heavy cast metal, and is connected by a pair of forward converging draft links 9 to the frame of the implement. The link is pivoted at 10 to the frame and at 11 is pivoted to the drop plate. In Fig. 2 it will be seen that the pivot plates 12 for the link are attached to the frame, and at the front side of the plate 2 a clevis 12′ is provided for attachment of the chain 7.

In Fig. 3 a top plan view of the drop plate is shown wherein the forward end of the plate is fashioned with pairs of perforated lugs 13 for the converging links 9, and at each corner of the plate are provided pairs of vertical lugs 14 to which four suspending links 15 are pivoted.

These links 15 are each pivoted to a crank arm 16 and 17, and the arms are provided at the ends of crank shaft 18 18. The shafts are journaled above the main frame in bearings 19, and the bearings are supported on the frame from transverse plates 20 beneath the frame and U-bolts 21 as shown in Fig. 1.

It will thus be seen that the drop plate is suspended in horizontal position beneath the main frame and between the front and rear trucks, and that the position of the drop plate may be adjusted vertically above the surface of the road through the instrumentality of the crank shaft, their arms, and the suspending links.

The crank shafts are revolved through a pair of worm gear wheels 22, 23 and a pair of complementary worm gears 24 and 25. These worm gears are carried by the worm shaft 26 which is journaled in bearing 27 supported on the plates 20, and at the rear end of this worm shaft a gear 28 is located. The gear 28 is revolved by a pinion 29 on the pinion shaft 30, and the pinion shaft is turned by a hand wheel 31. The operator may stand at the rear of the implement on the platform 32, and by manipulating the wheel 31 it will be apparant that the drop plate or suspending plate 8 may be adjusted vertically with relation to the surface of the road.

In Fig. 3 it will be seen that the suspending plate is provided with two series of sockets 33, and that the sockets are arranged

in staggered relation. These sockets are adapted to receive the scraper teeth 34, and in Fig. 4 it will be seen that each scraper tooth has a shank 35 adapted to be passed upwardly through a socket and the shank may be secured above the plate by a wedge 36 and cotter pin 37.

Above the plate 8 may be interposed spacing blocks or fillers 38, and it will be apparent the teeth are held in rigid position in their sockets by the shoulders 39 on the teeth and these blocks 38 when the wedges 36 are driven through the transverse openings provided therefor in the shanks of the teeth. Preferably the teeth are inclined forwardly as indicated in Fig. 1, and by their staggered arrangement as indicated in Fig. 3 they are spread over a considerable area, and thus act upon the surface of the roadway as required. When the teeth become worn or broken they may readily be replaced by fresh ones, and of course different forms of scraping or cutting surfaces may be utilized by providing teeth of different construction. The depth of the cut of the teeth is indicated in Fig. 2, and of course this depth can be varied in order that ridges or mounds may be cut off and the surface of the roads thus leveled. In Fig. 1 the scraping device has been elevated to inoperative position for transportation of the implement, and of course the adjustable scraping device is brought to operative position by manipulating the hand wheel 31.

From the above description taken in connection with my drawings it will be apparent that I have provided an implement of this character well adapted for the performance of its required functions, which is comparatively simple in construction, and which may be manipulated with facility and convenience.

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

1. The combination with a wheeled frame of a drop plate having sockets therein and scraping teeth secured in said sockets arranged in staggered relation, spaced crank shafts journaled in said frame, suspending links connecting said shafts and plate and wormed gear wheels on said shafts, draft links connecting said plate and frame, a worm shaft journaled in the frame and wormed gears thereon engaging said worm gear wheels, and a hand wheel on said worm shafts.

2. The combination with a frame having front and rear supporting trucks, a draft bar coupled to the front truck and a draft chain coupled to said frame, of a horizontally disposed drop plate, suspending-links pivotally supported from the frame and pivotal connections between said links and plate, means for actuating said suspending links to vertically adjust the plate, pivoted draft links connecting said plate and frame at the rear of the chain coupling, and scraper teeth carried by the plate.

In testimony whereof I affix my signature.

JAMES B. JARMIN.