No. 836,211. PATENTED NOV. 20, 1906.

W. A. PIERCE.

ROAD FILLING AND LEVELING DEVICE.

APPLICATION FILED JUNE 13, 1906.

2 SHEETS—SHEET 1.

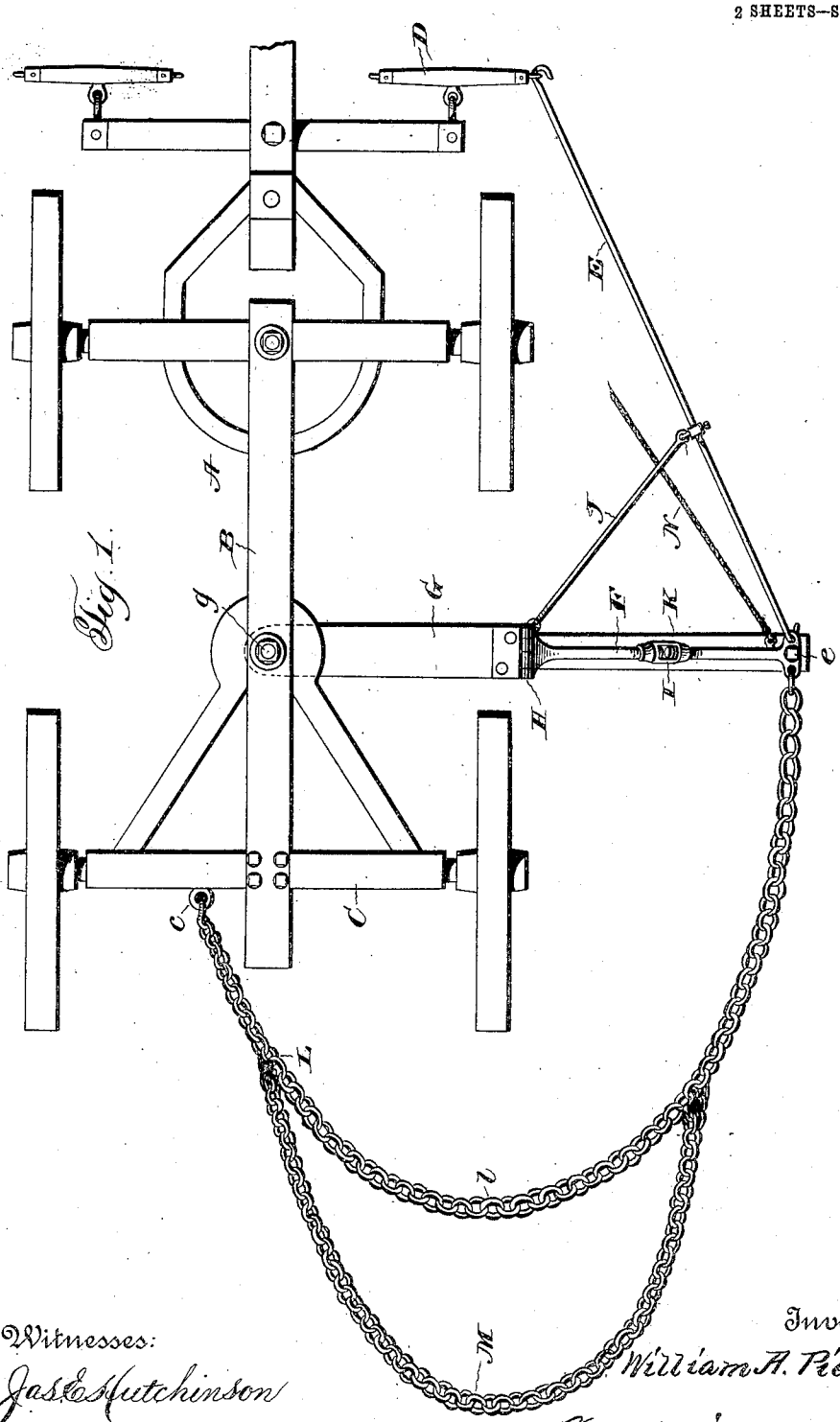

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2

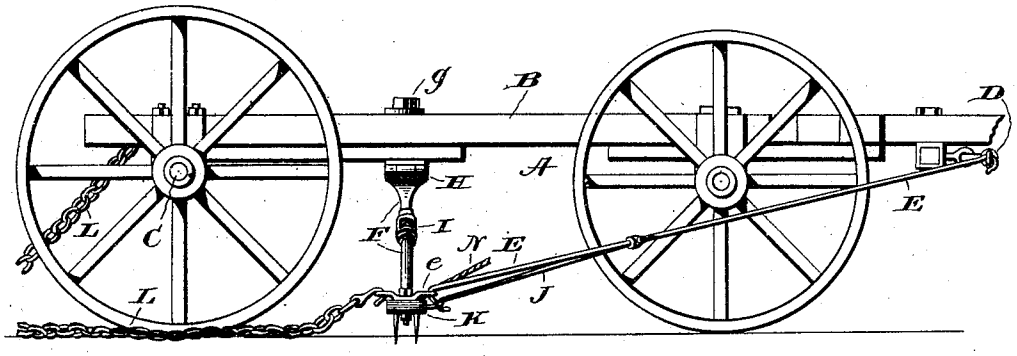
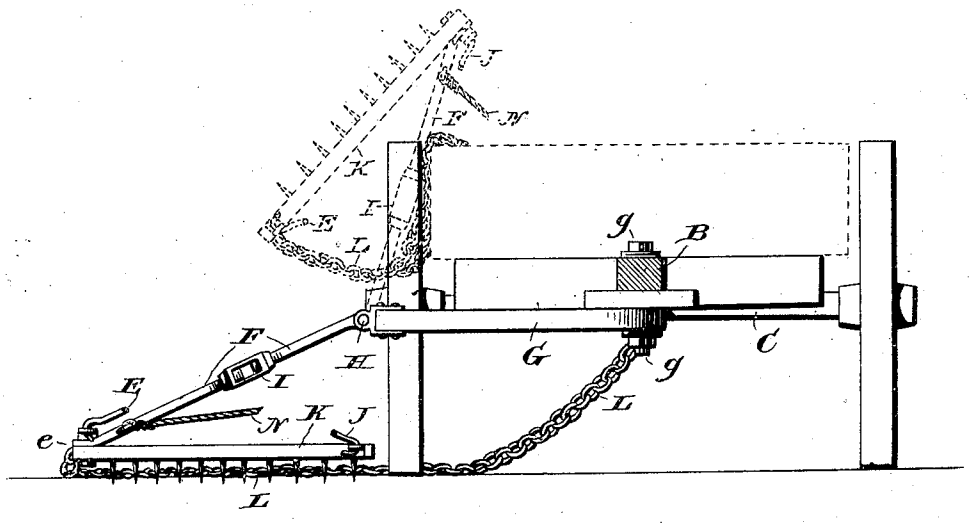


Fig. 3.



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ROAD FILLING AND LEVELING DEVICE.

No. 836,211. Specification of Letters Patent. Patented Nov. 20, 1906.

Application filed June 13, 1906. Serial No. 321,557.

To all whom it may concern:

Be it known that I, WILLIAM ARTHUR PIERCE, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Road Filling and Leveling Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in road filling and leveling devices, and although it comprehends a machine devised in its entirety for this particular purpose has especial reference to an attachment for ordinary farm-wagons adapted to be used in conjunction therewith for accomplishing the ends desired.

The invention embraces proper securing means, and preferably such means as will permit relatively free shaking of the parts, and a drag, preferably of a chain type, carried by said means, so arranged that in operation it will trail along the side of a road and deflect and carry the dirt, stones, or other matter from said side toward the center of the road, whereby to fill cavities formed in the surface thereof and level said surface and more particularly the track portions of the road constituted by ruts invariably formed by the wear incident to the travel of wagons thereover.

The invention also includes means whereby the road-surface may be scarified or harrowed in advance of the action of the drag.

The invention still further includes means operable after the attachment has been properly applied to the wagon to lower or elevate the attachment into or out of engagement with the surface of the ground, as desired, without interfering with the initial mounting thereof.

The foregoing, as well as other novel characteristics of the invention, will be apparent from the detailed description hereinafter contained when read in connection with the accompanying drawings, forming part hereof, and wherein a convenient embodiment of the invention is illustrated.

In the drawings, Figure 1 is a top plan view of a fragmentary portion of a farm-wagon, showing my attachment applied thereto. Fig. 2 is a side elevation of Fig. 1, parts being broken away; and Fig. 3 is a transverse sectional view of Fig. 1, showing by full lines the attachment in lowered position and by dotted lines the attachment in elevated position.

Referring more specifically to the drawings, wherein like reference characters designate corresponding parts in the several views, A designates the running-gear of a farm-wagon, of which B is a coupling-pole, C the rear axle, and D one of the swingletrees.

E is a draw-bar swiveled, through the medium of a hook and eye, to the outer end of the swingletree D, whereby in operation it will extend rearwardly relative to the direction of travel of the wagon and outwardly in a direction laterally of the wagon down to the surface of the road-bed. The rear end of this draw-bar is coupled, as at *e*, to the outer end of a spreading link F, arranged transversely of the wagon and extending in an inclined direction outwardly and downwardly from a supporting-arm G, said arm being a flat bar held against any turning or tilting movement, but pivoted at *g* to the connecting-pole B of the running-gear, whereby the arm may swing or vibrate in a direction longitudinally of the wagon.

H is a hinged connection between the spreading-rod F and arm G permitting vertical swinging of said spreading-rod. I is a turnbuckle for adjusting the length of said spreading-rod.

Suspended from the spreading-rod and braced through a bar J with the draw-bar E is a harrow K, adapted to initially work the surface of the road-bed prior to engagement therewith by the drag now to be referred to. This drag is conveniently formed of logging-chain connected to the outer end of the spreading-bar F and to the rear axle C, as at *c*, the arrangement being such that this chain when in operation will have its bend *l* or rearmost portion directly in rear of the wagon-wheels, whereby the chain will deflect and carry the dirt and stones up from the side of the road toward the center thereof and serve effectually to deposit them in the depressed portions of the road-surface and principally in the furrow or groove caused by the wagon-wheels, as will be clearly apparent from Fig. 1. An auxiliary chain M, connected to the chain L, loops behind said chain L to assist in the operation just described.

A cable N, running from the outer end of the spreading-bar I to any convenient point on the wagon-body (not shown) and prefer-

ably within easy access of the driver, is afforded as a means for elevating the attachment up into the vertical position alongside of the wagon, as indicated in Fig. 2, when desired.

The use of the device is probably apparent; but it may be stated that when the same is lowered and in operation the trailing chains will be projected off to the right-hand side of the road from the path traveled by the wagon and in the rear of said wagon, whereby to first scarify or harrow the surface and subsequently deflect and carry the dirt and stones upward toward the center of the road to fill the ruts and level the surface thereof. The loose mounting of the arm G and the connecting of the draw-bar E to the swingletree renders the parts susceptible to the swinging of the swingletree, so that the harrow and drag chains are to a corresponding extent shook, which is quite advantageous in the use of the device. The foregoing operation is at approximately the right half of the road, the left half of the road being similarly treated upon the travel of the wagon in a reversed direction.

It is to be understood that while I have herein disclosed a machine constituting one embodiment of my invention nevertheless the invention is susceptible of many other embodiments, and it will be obvious that many changes may be made in the details and arrangements of the parts without in the least departing from the spirit of the invention, and among these latter it may be noted that although I have described a scarifier or harrow as an independent element the outer end of the spreading-bar F may be bent horizontally with respect to its inner end and formed into a harrow; also, the draw-bar E instead of being connected to the end of the swingletree may be connected to its equivalent, such as a doubletree; also, the end of the chain L instead of being connected to the axle C may be connected to some other portion of the wagon—for instance, the brake-beam—and the spreading-rod F instead of being hinged to the arm G may be attached to the adjacent brake beam or block.

I claim—

1. In combination with a wagon, an attachment carried thereby adapted to engage the surface of the road to fill the ruts and level said surface, said attachment including a trailing chain, secured at one end to the rear portion of the wagon and projected laterally beyond one side thereof, and means for holding the chain in its laterally-projected position.

2. In combination with a wagon, an attachment carried thereby adapted to engage the surface of the road to fill the ruts and level said surface, said attachment including a trailing chain, secured at one end to the rear portion of the wagon and projected laterally beyond one side thereof, and means for holding the chain in its laterally-projected position, in combination with means for elevating the chain and its holding means out of operating position.

3. In combination with a wagon, an attachment carried thereby adapted to engage the surface of the road to fill the ruts and level said surface, said attachment including a trailing chain, secured at one end to the rear portion of the wagon and projected laterally beyond one side thereof, and means for holding the chain in its laterally-projected position, in combination with a harrow carried by said holding means and adapted to operate in advance of the operation of the trailing chain.

4. In combination with a wagon, an attachment carried thereby adapted to engage the surface of the road to fill the ruts and level said surface, said attachment including a trailing chain, secured at one end to the rear portion of the wagon and projected laterally beyond one side thereof, means for holding the chain in its laterally-projected position, in combination with a harrow carried by said holding means and adapted to operate in advance of the operation of the trailing chain, and a draw-bar running from said holding means to the forward portion of the machine.

5. In combination with a wagon, an attachment carried thereby adapted to engage the surface of the road to fill the ruts and level said surface, said attachment including a trailing chain, secured at one end to the rear portion of the wagon and projected laterally beyond one side thereof, means for holding the chain in its laterally-projected position, in combination with a harrow carried by said holding means and adapted to operate in advance of the operation of the trailing chain, a draw-bar running from said holding means to the forward portion of the machine, and means for elevating said draw-bar, holding means and chain out of operating position.

6. In combination with a wagon, an attachment carried thereby adapted to engage the surface of the road to fill the ruts and level said surface, said attachment including a trailing chain, secured at one end to the rear portion of the wagon and projected laterally beyond one side thereof, means for holding the chain in its laterally-projected position, a draw-bar running from said holding means to the forward portion of the machine, and means for elevating said draw-bar, holding means and chain out of operating position.

7. In combination with a wagon, means carried thereby for filling the ruts and leveling the surface of the road including a trailing chain secured at one end to the rear portion of the wagon and at its other end projected laterally beyond the side of the wagon,

means for holding the chain in its laterally-projected position including a member pivoted to swing longitudinally of the wagon, and a draw-bar connected to the swingletree of the wagon.

8. In combination with a wagon, means carried thereby for filling the ruts and leveling the surface of the road including a trailing chain secured at one end to the rear portion of the wagon and at its other end projected laterally beyond the side of the wagon, hinged means for holding the chain in its laterally-projected position including a member pivoted to swing longitudinally of the wagon, and a draw-bar connected to the swingletree of the wagon, in combination with means for elevating the draw-bar-holding means and chain out of operating position.

9. In combination with a wagon, means carried thereby for filling the ruts and leveling the surface of the road including a trailing chain secured at one end to the rear portion of the wagon and at its other end projected laterally beyond the side of the wagon, means for holding the chain in its laterally-projected position including a member pivoted to swing longitudinally of the wagon, a draw-bar connected to the swingletree of the wagon, and a harrow carried by said holding means arranged to operate in advance of the trailing chain.

10. In combination with a wagon, means carried thereby for filling the ruts and leveling the surface of the road including a trailing chain secured at one end to the rear portion of the wagon and at its other end projected laterally beyond the side of the wagon, hinged means for holding the chain in its laterally-projected position including a member pivoted to swing longitudinally of the wagon, a draw-bar connected to the swingletree of the wagon, in combination with means for elevating the draw-bar-holding means and chain out of operating position, and a harrow carried by said holding means arranged to operate in advance of the trailing chain.

11. In combination with a wagon, means for filling the ruts and leveling the surface of the road including a drag projecting from a point laterally beyond one side of the wagon rearwardly and inwardly whereby to deflect and carry the dirt from the side of the road to a position behind the wheels.

12. In combination with a wagon, means for filling the ruts and leveling the surface of the road including a drag-chain projecting in rear of the wagon and laterally beyond one side thereof for deflecting and carrying the dirt from the side of the road to a position behind the wheels, the chain being arranged so that the bend thereof will be immediately in rear of the back wheel of the wagon for the purpose set forth.

13. In combination with a wagon, means for scarifying or harrowing the surface of the road at one side thereof, and a drag operatively associated with said means whereby the dirt will be deflected and carried away from said side toward the center of the road.

14. In combination with a wagon, means for scarifying or harrowing the surface of the road at one side thereof, and a drag-chain operatively associated with said means whereby the dirt will be deflected and carried away from said side toward the center of the road.

15. In combination with a wagon, means for scarifying or harrowing the surface of the road at one side thereof, a drag operatively associated with said means whereby the dirt will be deflected and carried away from said side toward the center of the road, and means whereby the parts will be shook in an operating position.

16. In combination with a wagon, means for scarifying or harrowing the surface of the road at one side thereof, a drag-chain operatively associated with said means whereby the dirt will be deflected and carried away from said side toward the center of the road, and means whereby the parts will be shook in an operating position.

17. In combination with a wagon, means for filling the ruts and leveling the roadway including a drag-chain mounted to deflect and carry the dirt from one side of said roadway to a position in rear of the wagon, and an auxiliary chain looped in rear of said first-mentioned chain.

18. In combination with a wagon, means for filling the ruts and leveling the surface of the roadway including a trailing chain, and means for shaking the same when in use.

19. In combination with a wagon, means for filling the ruts and leveling the surface of the roadway including a trailing chain, an auxiliary chain looped in rear of said first-mentioned chain, and means for shaking the same when in use.

20. In combination with a wagon, means for filling the ruts and leveling the surface of the roadway including a drag arranged to deflect and carry the dirt from one side of the roadway toward the center thereof, and means whereby said drag is vibrated when in use.

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

WILLIAM ARTHUR PIERCE.

Witnesses:
E. C. SHINER,
KATHLEEN STAMFORD.