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AUTOMOBILE PLOW.

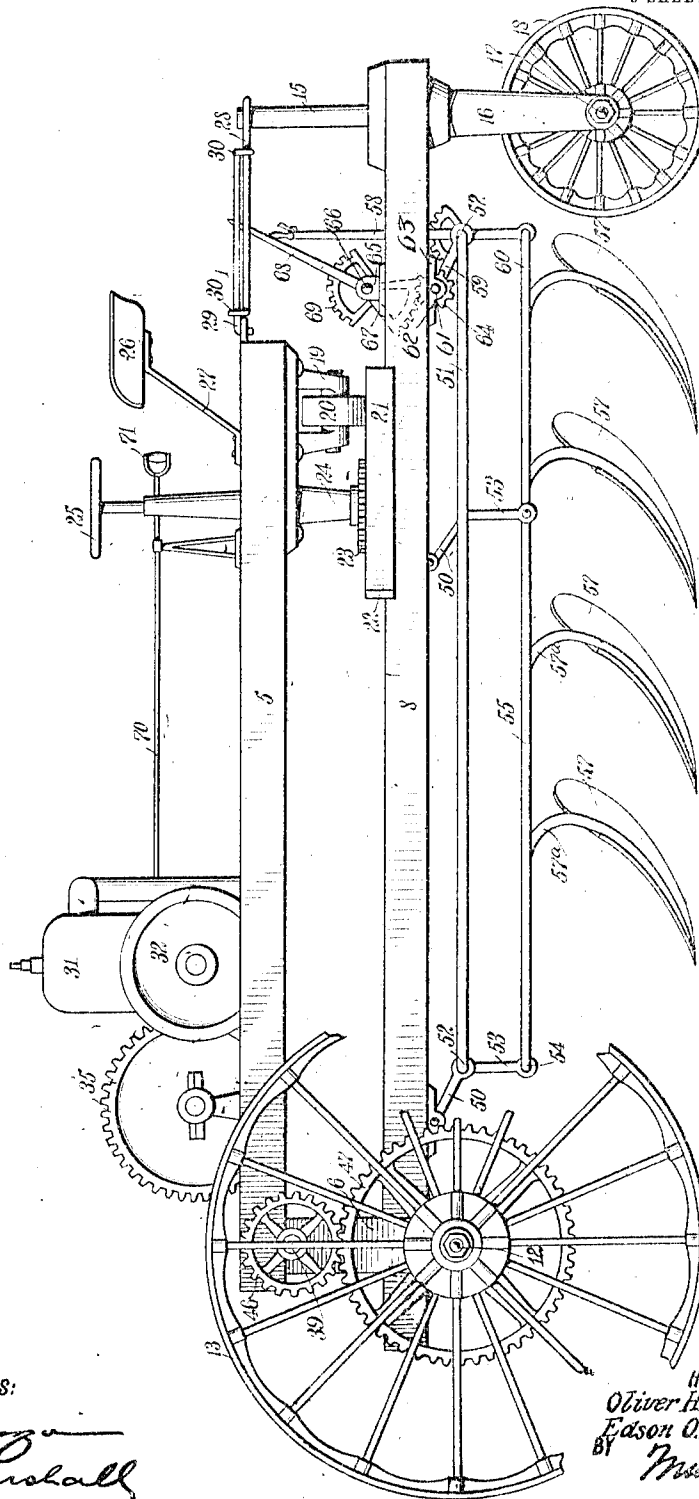
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Patented Aug. 22, 1911.

3 SHEETS-SHEET 1.

1,001,537.

Fig. 1.



WITNESSES:

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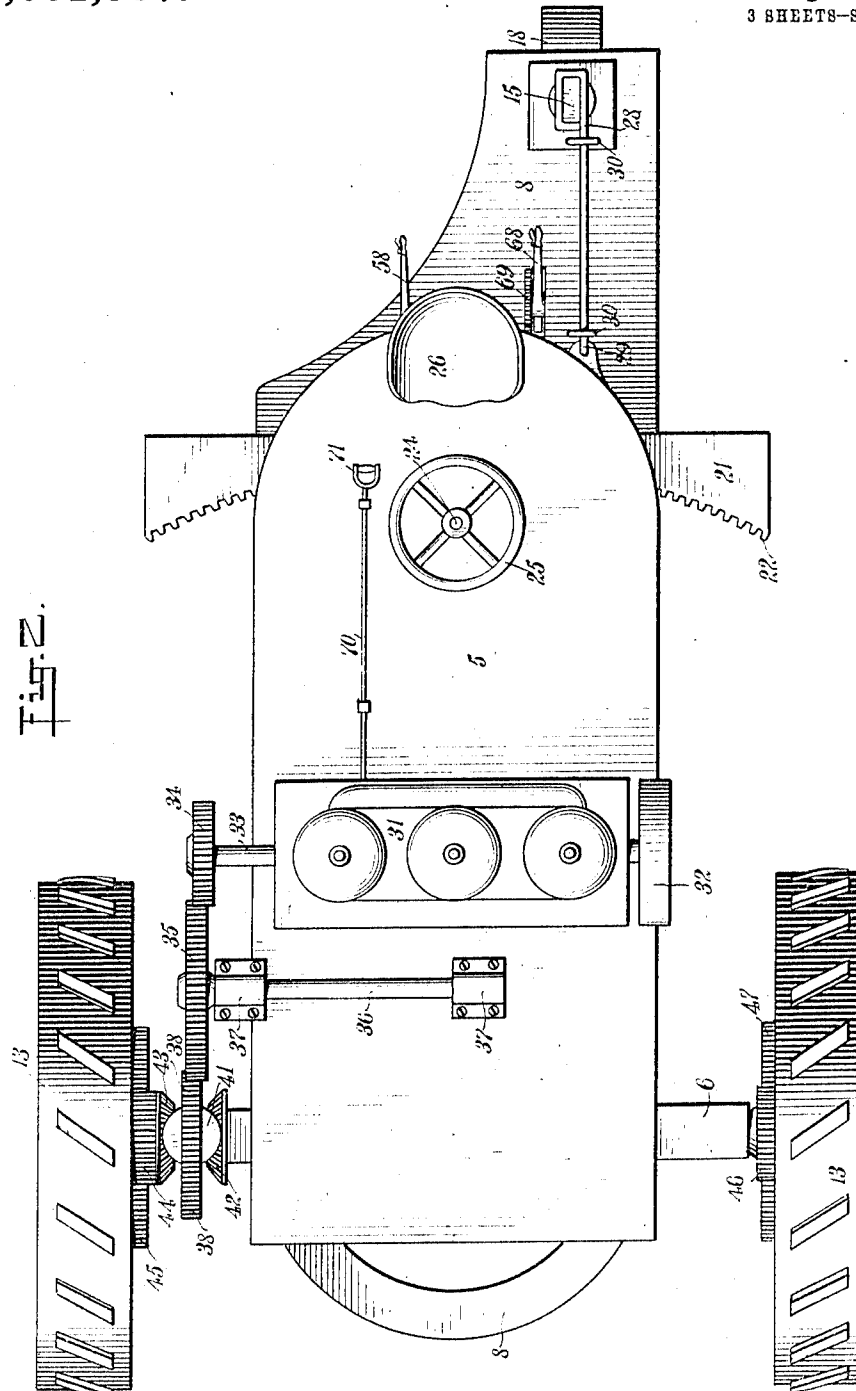
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3 SHEETS-SHEET 2.

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Fig. 2.



WITNESSES:

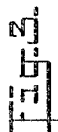
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UNITED STATES PATENT OFFICE

OLIVER HARRIS LINCOLN AND EDSON ORRIN PARKHURST, OF BROWNELL, KANSAS

AUTOMOBILE PLOW.

1,001,537.

Specification of Letters Patent.

Patented Aug. 22, 1911.

Application filed April 28, 1910. Serial No. 558,281.

To all whom it may concern:

Be it known that we, OLIVER H. LINCOLN and EDSON O. PARKHURST, both citizens of the United States, and residents of Brownell, in the county of Ness and State of Kansas, have invented a new and Improved Automobile Plow, of which the following is a full, clear, and exact description.

Our invention relates to automobile plows, and it has for its object to provide one, with traction wheels disposed near the front and at all times in the same position, relatively to the engine, whether the plow is being driven in a straight line or is being turned to one side or the other, the plowshares being disposed under the engine and being held down to their work by the weight thereof.

Still other objects of the invention will appear in the following complete description.

In this specification we will describe the preferred form of our invention, it being understood that the scope of the invention is defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side elevation of the invention; Fig. 2 is a plan view of the invention; and Fig. 3 is a sectional plan view of the invention.

By referring to the drawings, it will be seen that a frame is provided, consisting of a platform 5, to the underside of which, at the front, there is secured a bolster member 6, this bolster member 6 having a horizontal opening 7 therethrough, in which projects the forward end of an open frame 8. This open frame 8 has a transverse member 9, having an orifice 10, through which is disposed a pin 11, the pin 11 being seated at its upper and lower terminals in the bolster member 6. Secured to the bolster member 6, one at each side, are axles 12, on which are mounted traction wheels 13 which support the forward end of the plow.

The open frame 8, which is disposed below the frame 5, has, near its rear end, a

vertical bearing 14, in which is journaled a post 15, the post 15, below the bearing 14, being bifurcated as at 16, the bifurcated portion 16 having bearings in which is journaled an axle 17, on which is mounted a wheel 18, this wheel 18 supporting the rear of the plow. As shown in the drawings, we prefer to journal the post 15 in the bearing 14 at one side of the rear of the open frame 8; but it is, of course, understood that this post 15 may be journaled in a bearing in any other portion of the rear of the frame 8 that may be desired. We prefer to mount the post 15, with the wheel 18, near one side of the frame 8 in order that it may follow one of the plowshares and travel in the furrow made by said plowshare. In the same way one of the traction wheels 13 may travel in a furrow made by one of the end plowshares, as the plow was previously driven across the field.

Bearing members 19 are secured near the rear of the frame 5, at its under side, rollers 20 being journaled in these bearing members 19, the rollers 20 being provided to travel on a transverse member 21 secured to the frame 8. This transverse member 21 has its forward face formed into the shape of the curved rack 22, which is engaged by a gear wheel 23 mounted on a post 24 journaled in a bearing in the frame 5, this post 24 extending a distance above the frame 5 and having secured to it, at its upper end, a steering wheel 25. Back of the steering wheel 25 there is a seat 26, which is supported by a spring member 27 secured to the upper side of the frame 5. A tiller member is provided in two sections, one of the sections 28 being rigidly secured to the upper end of the post 15, the other section 29 being pivoted to the rear of the frame 5, each of these sections 28 and 29 having guide members 30 on their terminals, in which the companion sections are disposed respectively.

On the platform 5 is mounted the engine 31, having the usual fly-wheel 32 on the shaft 33, a gear wheel 34 being also mounted on this shaft 33, the gear wheel 34 meshing with a gear wheel 35 on a shaft 36 journaled in bearings 37 on the platform 5, this gear wheel 35 meshing with a gear wheel 38

mounted to rotate on a shaft 39, the gear wheel 38 carrying bevel gear wheels 41, the bevel gear wheels 41 being pivoted to the gear wheel 38, to rotate on axes substantially at right angles to the shaft 39. The bevel gear wheels 41 mesh with a bevel gear wheel 42, secured to the shaft 39, and a bevel gear wheel 43 mounted to rotate relatively to the shaft 39. To the bevel gear wheel 43 there is secured a gear wheel 44, the gear wheel 44 meshing with a gear wheel 45 secured to one of the traction wheels 13. A gear wheel 46 is secured to the other end of the shaft 39, this gear wheel 46 meshing with a gear wheel 47 secured to the other traction wheel 13.

Secured to the under side of the frame 8, are plates, to which are pivoted links 50, a frame, consisting of longitudinal rods 51 and transverse rods 52, being disposed below the rods 49, the transverse rods 52 being pivoted to the links 50. Pivoted to these transverse rods 52 are links 53, transverse rods 54 of the bottom frame being pivoted to the links 53, the transverse rods 54 being connected by longitudinal rods 55. The plow shares 57 are secured to the bottom frame. Pivoted to the rear transverse rod 52 are a lever 58 and a link 59, the lever 58 having its lower arm pivoted to a member 60 of the lower frame having the transverse bars 54. The link 59 is secured to a pin 61 journaled in bearings 62 secured to plates 63, which are secured to the under side of the frame 8, a gear wheel 64 being secured to the link 59, so that the rotation of the gear wheel 64 will swing the link 59 relatively to the plate 63.

Secured to the frame 8 and disposed upwardly therefrom, are bearing members 65, in which is journaled a pin 66, a toothed sector 67 being secured to this pin 66, the sector being disposed through an opening in the frame 8, with its teeth engaging the gear wheel 64, a lever 68 being also secured to this pin 66, by which the sector 67 may be moved to rotate the gear wheel 64 with its link 59. A quadrant 69 is provided, to be engaged by means on the lever 68, so that the lever may be secured in a predetermined position relatively to the frame 8.

In using the invention, the operator, by means of the rod 70 having the handle 71, may govern the engine 31, and as the engine is driven and the traction wheels 13 are rotated, the plow is driven across the field, the plowshares 57 being drawn thereby. When the operator desires to turn the plow to the right or to the left, he may do so by rotating the steering wheel 25, which causes the frame 8 to be thrown laterally relatively to the frame 5, so that the plowshares 57 and the rear wheel 18 are moved to the side to which the operator desires to drive the plow,

the traction wheels 13 maintaining, at all times, their position relatively to the engine 31. The frame 8 is thrown laterally as the post 24 is rotated by the steering wheel 25, the gear wheel 23, on the post, engaging the curved rack 22, which causes the post 24 and the frame 5 to move laterally relatively to the transverse member 21, which is secured to the frame 8. As the frame 8 is moved to the right or to the left, it carries with it the post 15 and the wheel 18, but as the section 28 of the tiller is secured firmly to the post 15, the post 15 is rotated, inasmuch as the section 29 of the tiller is pivoted to the rear of the frame 5. It will therefore be seen that, as the frame 8 is thrown to the right by the action of the gear wheel 23 on the rack 22 of the transverse member 21, the tiller moves to the left relatively to the frame 8. The wheel 18, at the rear of the plow, is thereby thrown well to the right and is, at the same time, turned to travel toward the left relatively to the frame 8, so that it is possible for the plow to turn quickly. In the same way, the plow may be turned in the opposite direction.

In operating the plow, the lever 58 is turned on its fulcrum, thereby throwing its lower arm from a perpendicular to an oblique position, as may be desired, by which means the lower frame having the transverse bar 54 is disposed at a predetermined distance from the frame having the transverse bars 52, to one of which the lever 58 is fulcrumed. By the movement of this lever 58, the plowshares 57 may be moved up or down to a position where they will engage the earth and will do the general work desired, these plowshares 57 being secured to the lower frame having the transverse members 54, as has been described. When the lower frame, having the transverse rods 54, has been adjusted in what is substantially the proper position to do the work, the operator may obtain any further adjustment by means of the levers 68, secured to the toothed sector 67. By moving this lever 68, the sector 67 will rotate the gear wheel 64 and inasmuch as the link 59 is secured to this gear wheel 64, the link 59 will cause the frame having the transverse rods 52 to move forwardly and backwardly from a vertical to an oblique position, thereby raising the frame having the transverse rods 52 from the ground, as may be desired.

The plow shares 57 are connected with the lower frame by means of the curved bars 57^a.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. In an automobile plow a frame, axles secured thereto at its forward end, traction wheels mounted on the axles, an engine

mounted on the frame, means by which the engine is adapted for rotating the traction wheels, a second frame disposed below and pivotally connected with the forward end of the first-mentioned frame, a supporting wheel spaced from the traction wheels and mounted on the second-mentioned frame, means for supporting the rear of the first-mentioned frame on the second-mentioned frame, and means for moving one of the frames relatively to the other.

2. In an automobile plow, a frame, axles mounted thereon, wheels mounted on the axles, a second frame disposed under and pivoted to the first-mentioned frame, a post journaled in a bearing in the second-mentioned frame, an axle mounted on the post, a wheel mounted on the axle and resting on the ground, and a tiller secured to the post and pivoted to the first-mentioned frame.

3. In an automobile plow, a frame, axles secured thereto, wheels mounted on the axles, a second frame pivoted to the first-mentioned frame, a post journaled in a bearing in one of the frames, gearing connecting the post with the other frame, a post journaled in a bearing in the second-mentioned frame, an axle mounted on the post, a wheel mounted on the axle and resting on the ground, and a tiller secured to the post and pivoted to the first-mentioned frame.

4. In an automobile plow, a frame, axles mounted thereon, wheels mounted on the axles, a second frame pivoted to the first-mentioned frame, a post journaled in a bearing in the second-mentioned frame, an axle mounted on the post, a wheel mounted on the axle and resting on the ground, a tiller secured to the post and pivoted to the first-mentioned frame, a second post journaled in a bearing in the first-mentioned frame, a gear wheel secured to the post, and a rack on the second-mentioned frame with which the gear wheel meshes.

5. In an automobile plow a frame, axles secured thereto, wheels mounted on the axles, a second frame disposed in the same vertical plane as the first-mentioned frame, and pivoted at its forward end to the forward end of the first-mentioned frame, a post journaled in a bearing in the second-mentioned frame, an axle mounted on the post, a wheel mounted on the axle, and resting on the ground, and a tiller secured to the post and pivoted to the first-mentioned frame.

6. In an automobile plow, a frame, axles secured thereto, wheels mounted on the axles, a second frame pivoted at its forward end to the forward end of the first-mentioned frame, a post journaled in a bearing in the second-mentioned frame, an axle mounted on the post, a wheel mounted on the axle and resting on the ground, a tiller secured to the post at one end, the other end

of the tiller being pivoted to the first-mentioned frame, a second post journaled in a bearing in the first-mentioned frame, and gearing connecting the post with the second-mentioned frame.

7. In an automobile plow, a frame, axles secured to the frame, wheels mounted on the axles, a second frame pivoted to the first-mentioned frame, rollers journaled in bearings in the first-mentioned frame, which are adapted for traveling on the second-mentioned frame, a post journaled in a bearing in the first-mentioned frame, a gear wheel secured to the post, a rack on the second-mentioned frame, with which the gear wheel meshes, a second post journaled in a bearing in the second-mentioned frame, a wheel journaled in a bearing in the post, and a tiller in two sections, each section having a guide in which the other section may travel, one section being secured to the second-mentioned post and the other section being pivoted to the first-mentioned frame.

8. In an automobile plow, a frame, axles secured thereto, wheels mounted on the axles, a second frame pivoted to the first-mentioned frame, a post journaled in a bearing in the second-mentioned frame, an axle mounted on the post, a wheel mounted on the axle and resting on the ground, and a tiller in two sections, each section having a guide in which the other section may travel, one section of the tiller being secured to the post and the other section being pivoted to the first-mentioned frame.

9. In an automobile two frames one pivoted to and disposed above the other, a post journaled in a bearing in one of the frames, a wheel mounted on the post, wheels supporting the other frame, and a tiller connecting the post with the last-mentioned frame.

10. In an automobile two frames, one pivoted to and disposed above the other, forward wheels for supporting the frames, means for supporting the rear of one of the frames on the other frame, a post journaled in a bearing in the rear of one of the frames, a wheel mounted on the post, and a tiller connecting the post journaled in the said frame with the other frame.

11. In an automobile plow two frames, one disposed under the other, axles secured to one of the frames, wheels mounted on the axles, a post journaled in a bearing in the other frame, an axle mounted on the post, a wheel mounted on the axle and resting on the ground, a tiller secured to the post and pivoted to the frame on which the axles are mounted, and gearing connecting the two frames.

12. In an automobile plow a frame member, a bolster member having a horizontal opening secured to the frame member, axles secured to the bolster member, wheels

mounted on the axles respectively, a second
frame disposed in the opening and pivoted
to the bolster member, a supporting wheel
spaced from the first mentioned wheels and
5 mounted on the second-mentioned frame,
means for supporting the rear of the first
mentioned frame on the second mentioned
frame, and means for moving one of the
frames relatively to the other.

In testimony whereof we have signed our 10
names to this specification in the presence of
two subscribing witnesses.

OLIVER HARRIS LINCOLN.
EDSON ORRIN PARKHURST.

Witnesses:

JOHN B. SCHABEN,
ADAM MEHLER.
