(No Model.)

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PLOW.

No. 518,936. Patented May 1, 1894.

Fig: 1.

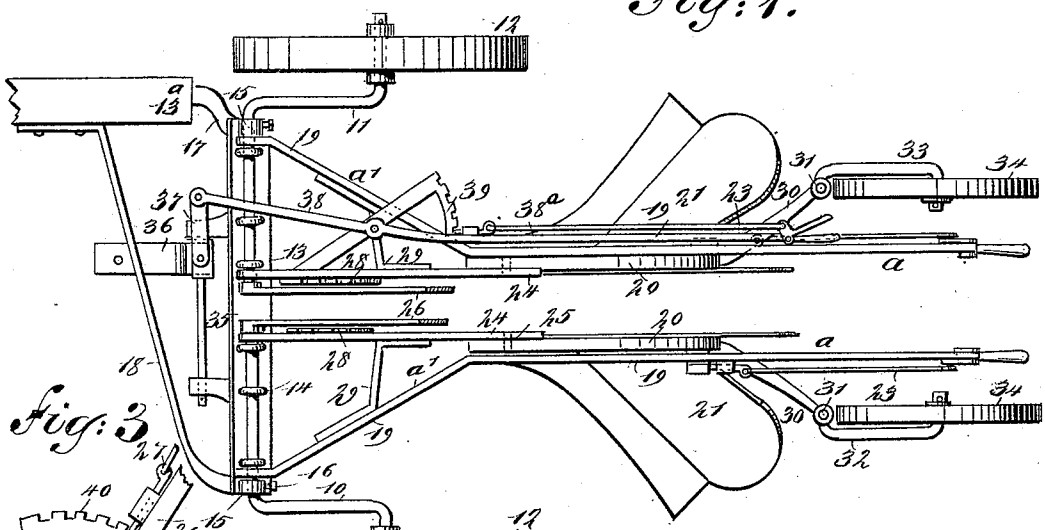

Fig: 3

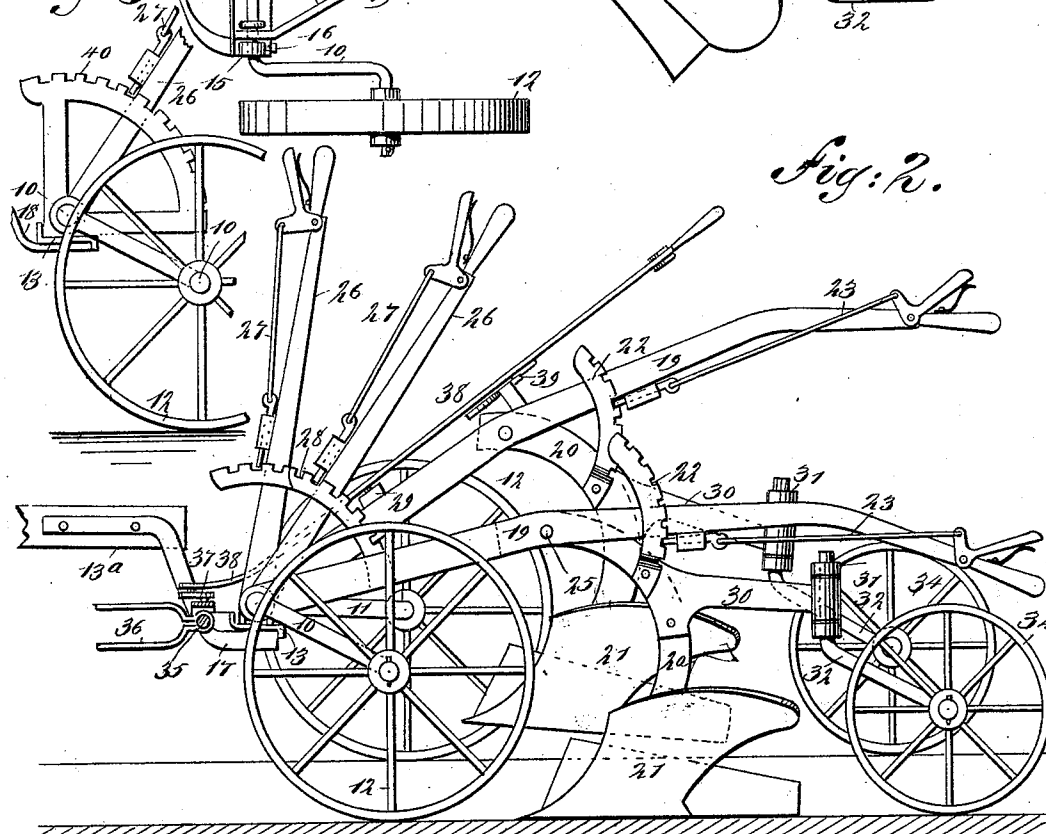

Fig: 2.

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PLOW.

SPECIFICATION forming part of Letters Patent No. 518,936, dated May 1, 1894.

Application filed September 12, 1893. Serial No. 485,331. (No model.)

To all whom it may concern:

Be it known that we, JOHN D. BURKHART, CHARLIE H. WATERMAN, and JOHN D. SMITH, of Dayton, in the county of Columbia and State of Washington, have invented a new and useful Improvement in Plows, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in plows, and especially to an improvement in what is known as combined hillside and sulky plows.

The object of the invention is to provide a double plow carrying a right-hand and a left-hand share, and to provide a means whereby either plow may be expeditiously and conveniently carried to and from an engagement with the ground, and whereby the forward axle of the plow may be adjusted independently of the adjustment of the plow shares, or simultaneously with the adjustment of the shares; and further to provide a plow which will be exceedingly simple and durable in construction as well as economic, and to so construct the plow that either beam and its attached share may be disconnected from the carriage, and further to construct the plow in such manner that both beams will be connected with the same carriage and in a manner also whereby one plow will ride upon a swiveled wheel on the land, out of engagement with the ground, independent of the other plow which will be in position for work.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a plan view of the improved plow. Fig. 2 is a side elevation thereof, the clevis support being in section; and Fig. 3 is a detail view illustrating the attachment of a rack to the axle from which the plow beam has been removed.

In carrying out the invention two forward crank axles 10 and 11 are employed, said axles having loosely mounted upon their outer ends drive wheels 12. The inner ends or members of the axles are pivoted upon a plate 13, one axle being located at each side of the center, which plate in connection with a tongue 13^a, may be said to constitute the carriage of the plow, and together with the axles and wheels 12 the body portion thereof. The plate 13, is the front transverse plate or bar of the plow, and is provided at its forward edge with an upturned flange and at its rear edge with a downwardly-projecting flange, as shown in Figs. 2 and 3, in order that the plate may be made as light as possible and yet be strong.

Bearings 14 of any approved construction are located upon the plate 13, as shown in Fig. 1, and in these bearings the axles 10 and 11 are journaled, one independent of the other; and at each end of the plate a sleeve 15, is preferably located, integral with the plate, each sleeve being provided with a set screw 16, in order that the axles may be held rigidly in any position in which they may be placed. The tongue 13^a, is located at the right-hand side of the plow and stands at an elevation above the carriage plate or bar 13, being connected therewith at its right-hand end through the medium of a curved arm 17, and a second rigid arm 18, connects the left hand side of the tongue with the left hand end of the carriage plate, the attachment of the arms being made at the under side of the plate. A lift lever 19, is pivoted upon each axle 10 and 11, the forward ends of the levers being located upon the axles near the outer ends of the journaled members of the latter, as shown in Fig. 1; and the levers are made to extend inward from the axle in direction of each other until the said levers throughout the major portion of their length will be parallel with each other and a predetermined distance apart. Thus each lever may be said to consist of a straight body portion a and a forward shank section a'.

At the rear end of the body or straight section a of each lift lever the upper end of a plow shank 20, is pivoted, the said shank being curved downward from the lever in the ordinary manner, and the plow shares 21, are secured to the lower ends of the shanks in any manner known to the trade. Below the pivotal point of each plow shank the lower

end of a rack 22, is secured, and the racks extend upward and outward in a manner to project outside of the lift levers and some distance above said levers when the latter are in their lower position. Each rack 22, is engaged by a thumb lever 23, carried one by each lift lever 19. Near the inner end of each axle a bar 24, is pivoted and the rear end of each bar is connected with a shank 20, through the medium of a pivot pin 25 of the shank, which pin passes through the lift lever shank and bar 24. At the inner end of each axle 10 and 11, an adjusting lever 26, is rigidly secured, and by operating the lever the axle will be turned in a desired direction. Each adjusting lever 26, is provided with a thumb latch 27, and these latches are adapted for engagement with racks 28, the racks being secured to the pivoted bars 24, connected with the plows, the shanks and lift levers 19. Each lever 19, is connected with its pivotal bar 24, through the medium of a brace 29, as shown best in Fig. 1, so that the bars 24 and the plow shanks 20 and the levers 23, may be raised or lowered simultaneously by the movement of the latter, and the bars 24 virtually constitute the plow beams, since the plow shanks 20 are virtually pendent from them, and in reality the plow shanks are simply continuations of the beams 24. Thus it will be observed that a complete plow, including share, beam and adjusting devices, is located at each side of the seat of the carriage, and are practically parallel with one another, one of the plows being a right-hand and the other a left-hand plow. An arm 30, is projected from each plow shank 20, rearwardly and outwardly therefrom, and each arm terminates at its rear end in a socket 31, and in each socket a member of a crank axle is journaled, the crank axles being respectively designated as 32 and 33, and the said axles 32 and 33 are the rear axles of the plow and are so curved that the wheels 34, which are mounted upon the axles, may follow directly behind the center portion of each plow. It will be observed that these wheels are practically swiveled, since their axles are free to turn in their bearings, and the wheels will follow the movement of the axles. The rear or swiveled wheels 34, are much smaller than the forward wheels. A bar 35, is located parallel with and some distance from the front of the carriage beam or bar 13, being connected with the latter; and upon the bar 35, which may be termed a clevis support, the clevis 36, has sliding movement, and the clevis is connected by a link 37 with a lever 38, which lever is fulcrumed upon the brace bar 29 of the right-hand plow, and is provided with a thumb latch 38^a, adapted to engage with a rack 39, secured to the right-hand plow beam and right hand lift lever. By this means the clevis may be shifted to accommodate the team, and three horses may be included in the team if desired, the tongue 13^a insuring the plow turning with the team.

In Fig. 2 the right-hand plow beam and plow are illustrated as raised, the right-hand lift lever having been elevated, and the plow is supported by its rear swiveled wheel 34 traveling on the land, and in lifting the right-hand lever 19 on the right-hand axle, it being connected with the lift lever through the medium of the adjusting lever 26 and rack 28, the said right-hand axle will be turned in a manner to level the frame; therefore, the right-hand swiveled and the forward supporting wheels will travel upon the land, while the left-hand corresponding wheels will travel in the furrow. When the end of the furrow is reached the left-hand lift lever is raised to the same height as the right-hand lever, which action will throw the left-hand plow out of the ground and place it in the same position as the right-hand plow, enabling the plow to be turned in a ready and convenient manner. The axles may be adjusted independently of the lift levers directly through the medium of the adjusting levers 26.

The plow may be changed from a hillside to a sulky plow by detaching the left-hand plow beam and lift lever from the carriage, in which event a rack must be provided for the left-hand axle adjusting lever, and to that end an auxiliary rack 40, may be secured to the carriage plate 13, as shown in Fig. 3.

The plow is exceedingly simple, durable and economic in its construction, and is capable of use either as a sulky or as a hillside plow, and at the same time the plow is a double one, each of its shares being independently manipulated.

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

1. In a plow, the combination, with a carriage having independent and adjustable crank axles connected therewith, of jointed plow beams having pivotal connection with the carriage, and lift levers and locking devices connected with the plow beams and with the carriage, being fulcrumed upon the latter, as and for the purpose specified.

2. In a plow, the combination, with a carriage, and crank axles connected with the same, the said axles being adjustable upon the carriage and independent one of the other, of a plow beam constructed in pivoted sections fulcrumed upon each axle, lift levers provided with locking devices likewise fulcrumed upon the axles and connected with the plow beams, and adjusting levers connected with the axles and adapted for operation in conjunction with or independent of the lift levers, as and for the purpose set forth.

3. In a plow, the combination, with a carriage, and crank axles adjustably mounted upon the carriage and adapted to carry supporting wheels, of plow beams constructed in pivotally connected sections, said plow beams

being removably mounted upon the carriage, one at each side of its center, a lift lever connected with each plow beam and provided with locking devices, adjusting levers connected with the axles and likewise with the plow beams, and swiveled wheels adapted to follow in the track of the plows, said wheels being connected with the plow beams, substantially as and for the purpose set forth.

4. In a plow, the combination, with a carriage, crank axles journaled upon the carriage and adapted to carry supporting wheels, and adjusting levers connected with the axles, of a plow beam constructed in pivotally connected sections, pivotally connected with the carriage one at each side of its center, lift levers fulcrumed upon the carriage and connected with the plow beams, a locking device carried by each beam and adapted for engagement with the adjusting levers of the crank axles, arms projected from the rear of the beams, and wheels the axles whereof are pivotally connected with said arms, as and for the purpose specified.

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