M. L. ALFORD.

GANG PLOW.

APPLICATION FILED MAR. 8, 1912.

1,053,343.

Patented Feb. 18, 1913.

2 SHEETS—SHEET 1.

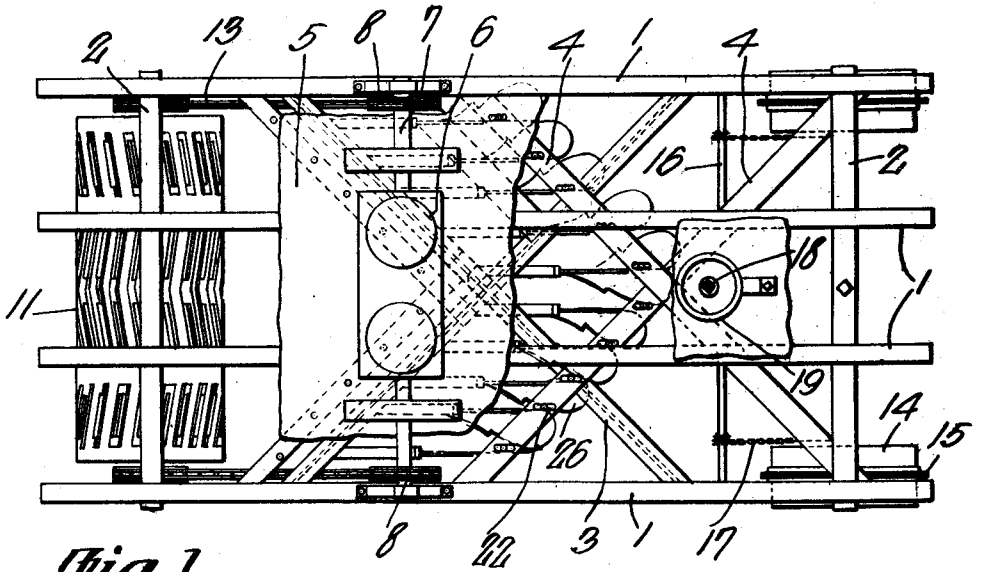

Fig. 1.

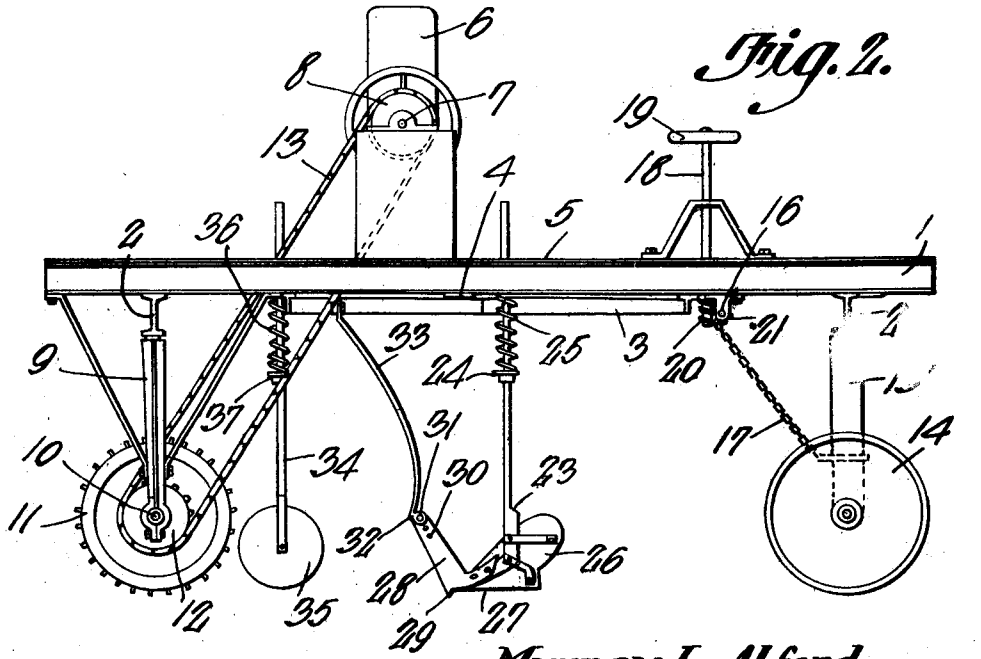

Fig. 2.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

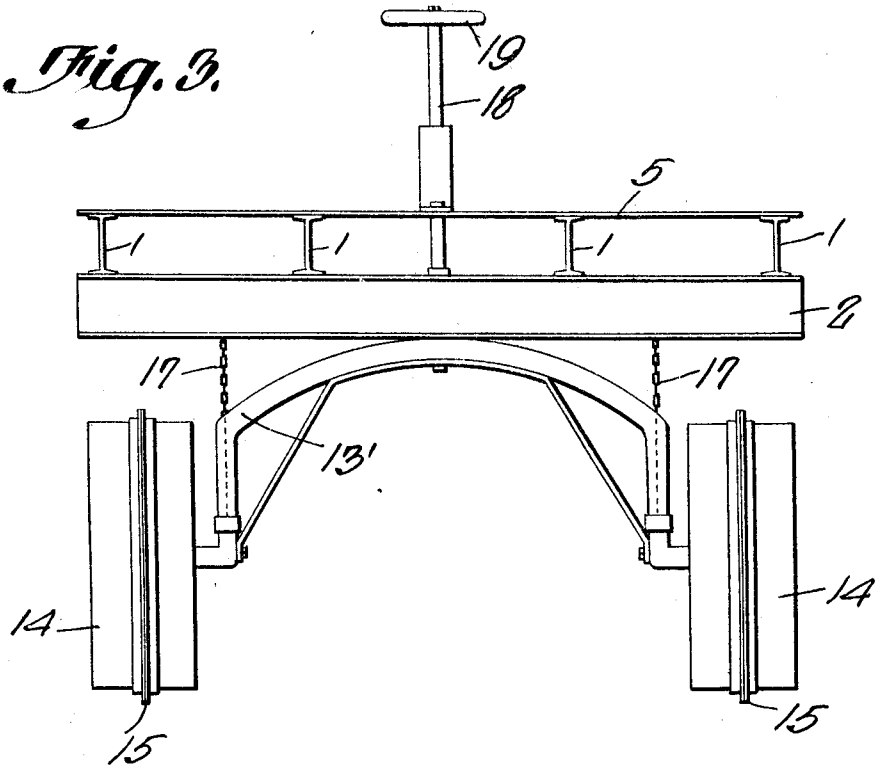
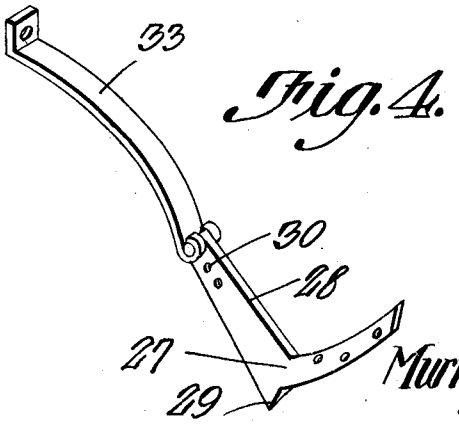


Fig. 4.



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UNITED STATES PATENT OFFICE.

MURRAY L. ALFORD, OF LAFOURCHE CROSSING, LOUISIANA.

GANG-PLOW.

1,053,343. Specification of Letters Patent. Patented Feb. 18, 1913.

Application filed March 8, 1912. Serial No. 682,339.

To all whom it may concern:

Be it known that I, MURRAY L. ALFORD, a citizen of the United States, residing at Lafourche Crossing, in the parish of Lafourche and State of Louisiana, have invented a new and useful Gang-Plow, of which the following is a specification.

This invention relates to gang plows of the self-propelling type, one of its objects being to provide a novel form of frame for holding the plows in proper relation, said frame being simple and durable in construction.

A further object is to provide plows having novel forms of colters connected to the landsides thereof, said colters constituting means for elevating the plows over unyielding obstructions in the paths thereof, thereby preventing injury to the machine while in use.

A further object is to provide means for holding the plows yieldingly in engagement with the soil.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a plan view of the machine, portions of the platform thereof being removed. Fig. 2 is a side elevation of the machine. Fig. 3 is a rear elevation of the machine. Fig. 4 is a perspective view of one of the sliding colters or deflectors.

Referring to the figures by characters of reference 1 designates parallel I-beams bearing downwardly at their ends upon cross I-beams 2, thus outlining a frame constituting the body of the machine. T-rails 3 are arranged diagonally under the central I-beams 1, their ends being secured to the side beams 1. Crossed strips 4 are arranged diagonally under and secured to the beams 1 and are parallel with the T-rails 3. These beams 3 as well as the strips 4 constitute means for holding the plows and colters in proper relation to the frame, as will be hereinafter described. A platform 5 of any preferred construction is preferably supported by the beams 1 and a motor 6 may be arranged on this platform, the shaft 7 of the motor being provided with sprockets 8. Suitably braced arms 9 extend downwardly from the end portions of the front cross beam 2 and a shaft 10 is journaled in the lower end portions of these arms and has a roller 11 secured thereto and constituting the propelling element of the machine. Sprockets 12 are secured to the shaft 10 and each of them receives motion, as through a chain 13, from one of the sprockets 8. It is to be understood of course that any suitable means may be provided for controlling the transmission of power from the motor to the roller 11 and mechanism other than that shown and described may be provided for transmitting motion to the roller from the motor. A yoke 13′ is pivotally connected, as its center, to the other end cross beam 2 and is supported by steering wheels 14 each of which is preferably provided with a centrally disposed annular rib or flange 15 whereby lateral movement of the wheels upon the soil is prevented. A shaft 16 is journaled in the frame of the machine at points remote from the yoke or arched axle 13′ and chains 17 or other flexible elements are fastened at one end to this shaft and at their other ends to the arched axle 13′ close to the wheels 14. A shaft 18 extends upwardly from the frame and has a hand wheel 19 at its upper end and a worm 20 at its lower end, said worm being adapted to engage and actuate another worm 21 secured to the shaft 16. Thus it will be seen that by rotating the hand wheel 19 one of the chains 17 can be wound on shaft 16 while the other chain is paid out, this resulting in the moving of the arched axle about its pivot. Obviously, therefore, the machine can be easily steered by a person located on the platform 5.

Those portions of the crossed strips 4 which are located in advance of the point of crossing, are provided with slots 22 which are parallel with the beams 1. These slots can be located at any desired distances apart and each of them receives the straight standard 23 of a plow. A collar 24 is secured to the standard and is contacted by one end of a spring 25 the other end of which is se-

cured to the strip 4. This spring serves to press the standard 23 downwardly. The lower end of the standard is secured, in any manner desired, to the point and moldboard of a plow 26. Said standard is also secured to an arm 27 extending rearwardly from the upwardly and forwardly inclined blade 28 of a sliding colter, the lower or advancing edge of the blade being sharpened and extending downwardly below the arm 27 to form a nose or projection 29 designed to extend into the soil below the landside of the plow. The arm 27 is not only secured to the standard 23 but also fits against and is secured to the landside of the plow 26. A series of openings 30 is formed in the upper end portion of the blade 28 and any one of these openings is adapted to receive a pivot pin 31 extending through an eye 32 formed at the lower end of a bow spring 33. The upper end of the spring is bolted or otherwise fastened to the depending flange of the T-rail 3 located in front of the standard 23.

From the foregoing it will be seen that when the machine is propelled forward the colter blade 28 will cut into the soil and the plow 26 will be pressed down into the soil a desired distance, the spring 25 serving to hold it yieldingly at the depth desired. Should the colter blade come into contact with an unyielding obstruction likely to cause injury to the plow, it will ride over said obstruction, thus elevating the plow and causing the spring 25 to be placed under stress. By reason of the fact that the standard 23 is capable of both up and down movement and forward and rearward movement within the slot 22, it will be seen that the movement of a plow over an obstruction will not be interfered with but can be accomplished freely and without injury to any part of the machine.

It is to be understood of course that any suitable means may be provided for elevating the plows and their colters 28 manually. For example a lever, not shown, can be connected by chains or other flexible elements to the various collars 24 so that, when the lever is pulled in one direction, all of the standards can be elevated.

A series of standards 34 is carried by those portions of the T-rails 3 located in advance of their point of crossing, each of these standards carrying a colter disk 35 at its lower end. A spring 36 is preferably mounted on each standard 34 and bears downwardly on a collar 37 on the standard, the upper end of the spring being secured to the T-rail 3. These colters are thus pressed yieldingly into engagement with the soil. Any suitable means can be provided for raising and lowering the standards 34, a means similar to that described in connection with the standard 23, being employed if desired.

It is to be understood that in lieu of the plow shown at 26 in the drawings, any other suitable soil engaging means may be employed such, for example, as cultivator shovels, spring harrow teeth, and the like. Furthermore, by substituting wheels, such as shown at 14, for the roller 11, the machine can be caused to straddle a row and thus be used for cultivating plants.

It will be noted by referring to the drawings that the arm 27 is extended upwardly and rearwardly abruptly and that the lower end of the standard 23 slants downwardly and forwardly. Both the parts 27 and 23 follow the curvature of the plow point whereby they are prevented from becoming hung on obstructions after the nose 29 has passed over them.

What is claimed is:—

1. The combination with a structure, and a plow movable upwardly relative thereto, of an inclined colter blade, an arm extending therefrom and secured to the landside of the plow, said blade having a nose projecting below the landside, and a spring connection between the upper end of the colter and said structure.

2. The combination with a structure, of a plow mounted to move relative thereto, a colter blade inclined upwardly and forwardly, a rearwardly extending arm upon the blade and secured to the landside of the plow, a nose extending downwardly from the blade and below the landside, said nose and blade constituting means for elevating the plow over an unyielding obstruction, and a connection between the arm and said structure.

3. The combination with a structure, of a plow mounted to move relative thereto, a colter blade inclined upwardly and forwardly, a rearwardly extending arm upon the blade and secured to the landside of the plow, a nose extending downwardly from the blade and below the landside, said nose and blade constituting means for elevating the plow over an unyielding obstruction, and a spring connection between said arm and the structure.

4. A gang plow including a wheel supported frame, crossed members carried thereby, standards movably connected to and depending from said members, plows carried by the standards, yielding means on the standards for holding the plows pressed into engagement with the soil, colter blades fixedly connected to the landsides of the plows and inclined upwardly and forwardly therefrom, and spring connections between said blades and the plow structure.

5. A gang plow including a wheel supported frame, spring pressed standards depending from and adapted to slide within the frame, plows carried by the lower ends of the standards, upwardly and forwardly inclined colter blades in front of the plows.

rearwardly extending arms on the blades connected to the landsides of the plows, each blade having a depending nose extending below the landside, and flexible connections between the colter blades and the frame.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

MURRAY L. ALFORD.

Witnesses:

LEONARD TLALGANT,

HENRY E. MOREAU.