

G. S. CRAWFORD.
ATTACHMENT FOR SULKY PLOWS.
APPLICATION FILED MAY 16, 1917.

1,253,943.

Patented Jan. 15, 1918.

2 SHEETS—SHEET 1.

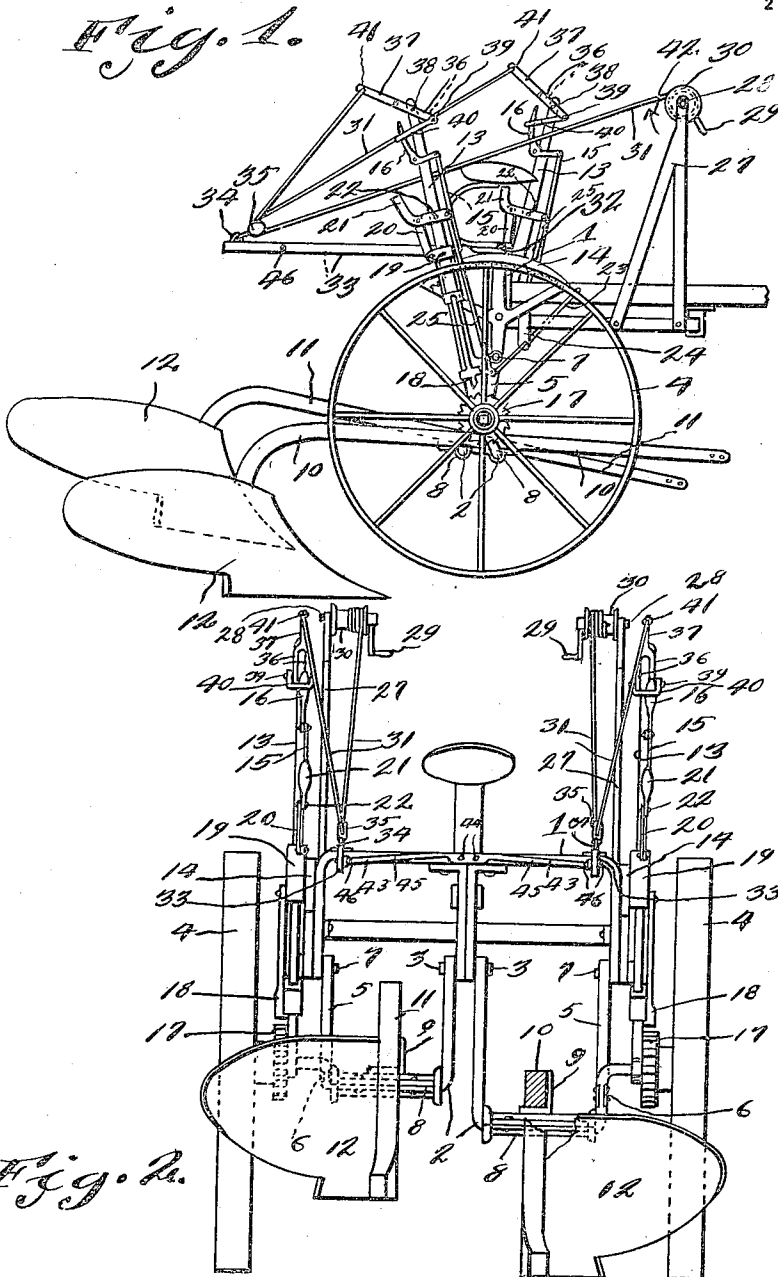


Fig. 2.

Witnesses

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Fig. 3.

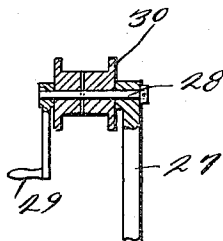
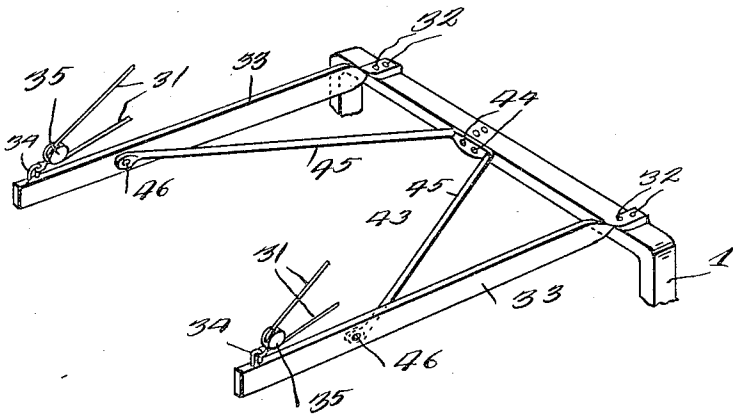


Fig. 4.

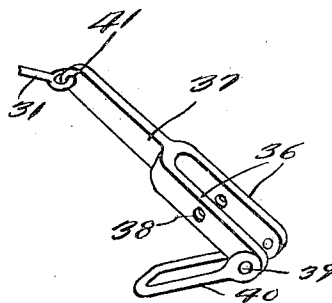


Fig. 5.

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR SULKY-PLOWS.

1,253,943.

Specification of Letters Patent.

Patented Jan. 15, 1918.

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To all whom it may concern:

Be it known that I, GEORGE S. CRAWFORD, a citizen of the United States, residing at La Salle, in the county of Weld, State of Colorado, have invented a new and useful Attachment for Sulky-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the art of sulky-plows, and particularly to an improved device or attachment, whereby either or both plows may be easily put or forced into the soil or ground without the necessity of considerable strength.

It has been found difficult for weak or crippled persons to properly manipulate sulky plows, whereby the plows proper may be forced or put into the soil or ground efficiently.

Therefore, through necessity, a simple, efficient and practical attachment has been devised, consisting of a windlass, the winding drum of which is provided with a cable passing over a pulley and attached to the plow operating lever and arranged and constructed in such wise, whereby the operator, upon simply rotating the drum, may put or force the plow, well into the soil or ground, without wrenching or twisting the operator's back.

In practical fields, the details of construction may necessitate alterations falling within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—

Figure 1 is a view in side elevation of a sulky plow, showing the improved attachment applied, and one of the plows lowered and the other raised.

Fig. 2 is a rear view, also showing one of the plows raised and the other lowered.

Fig. 3 is an enlarged detail perspective view of a portion of the yoke 1 and the bars 33, showing the brace 43, the pulleys 35 and the cables 31.

Fig. 4 is a sectional view through one of the windlass mechanisms, which is carried by the frame of the sulky plow.

Fig. 5 is a detail perspective view of one of the levers 37, and its looped member 40.

Referring more especially to the drawings,

1 designates a yoke forming a part of the frame of the apparatus and 2 designates two complementary crank axles pivotally connected at their adjacent upper ends upon the bearing 3, and the outer end of each crank axle has a wheel 4 journaled thereon. A crank arm 5 is clamped by means of the plates 6 to an angled portion of the axle 2, and its upper end is pivotally mounted upon a pin 7 mounted in the lower end of the yoke 1. Boxings 8 are fastened together and form bearings for the horizontally disposed portions of the crank axles and to the upper of the boxings 8, L-shaped plates 9 are secured, and to the upright walls of said plates 9 the beams 10 and 11 are bolted, the beams carrying the ordinary plows 12. Levers 13 are fastened, one to each crank axle, and a segment 14 is fastened to the frame and has teeth upon its inner marginal edge adapted to be engaged by a pawl carried by the bar 15, which in turn is pivotally connected to an angle lever 16 and affords means whereby, when the pawl is released, the handle 13 may be swung in order to cause one of the crank axles to rock in its pivotal bearings, and tilt either beam and its plow, as the case may be.

The mechanism for causing either beam or both and their plows to be automatically raised from the ground, in the event of an obstruction being struck by the plow points, or for any other reason, consists of ratchet wheels 17, which are fixed to the outer ends of the crank axles. A pawl 18 for engagement with the teeth of each ratchet wheel is pivotally connected to a yoke 19, which in turn is pivotally connected by a link 20 with a lever 21 which is pivotally mounted upon a pivot pin 22, and which yoke 19 is also pivotally connected to the link 15, which in turn is pivoted to the angle lever 16 upon the lever 13. Any suitable or conventional means not shown, and which is disclaimed, may be used to retain the pawl 18 out of engagement with the ratchet 17. A tread crank 23 is journaled in suitable bearings 24, fastened to the frame, and has pivotal connection with the lower end of a bar 25, which is pivoted at its upper end on the lever 21.

The mechanism for raising and lowering the plow beams and plows, as illustrated and as above described, is of the common construction employed in this type of sulky plow, and therefore, forms no part of the present invention, but to which applicant's

improved device for putting or forcing the plows into the soil is applied.

In the event of either plow, while in operative position, is approaching an obstruction, the operator may, by pressing down upon the crank member 23 cause the same to rock, and, through its connection with the pawl or member 18, cause the latter to be thrown into engagement with the ratchet wheel 17, which is rotatable with the supporting wheel 4, thereby causing the handle to rock with the crank and cause the beam 11 to be quickly thrown to a tilted position, as clearly shown in Figs. 1 and 2.

It is to be noted that when either one of the beams 10 and 11 is raised, its corresponding operating lever is disposed in a forward position, and it has been found very difficult for weak or crippled operators to throw the operating levers rearwardly, to replace, or force the plows down in the soil or ground hence, the improved device for accomplishing this purpose has been devised, and which consists of the standards 27 on opposite sides of the frame of the machine arranged in slightly forward positions. The upper ends of these standards carry shafts 28 having cranks 29 and provided with drums 30. Stout cables 31 are attached to and wound about the drum. Fixed in any suitable manner, adjacent the opposite sides of the yoke 1 (which forms a part of the frame of the apparatus), as shown at 32, are rearwardly extending bars 33, the rear ends of which have eyes 34, to which the pulleys 35 are connected. The forks 36 of the levers 37 are pivoted at 38 to the upper ends of the levers 13. Pivoted at 39 to the extremities of the forks 36 are looped members or links 40, which are so constructed and arranged as to overlie and engage the angle levers 16. The cables 31, after having passed over the pulleys 35, have their extremities connected at 41 to the upper ends of the forked levers 37.

Hence, it will be seen that when it is desired to replace or force either one or both

of the plows into the soil or ground, one or both of the drums may be rotated in the direction of the arrow 42, thereby winding one of both of the cables, which will throw one or both of the levers 13 rearwardly, and force either one or both of the plows into the soil. When the levers 37 are rocked by pulling upon the cables, the looped members 40 actuate the angle levers 16, to release the pawl (which is carried by the bar 15) from engagement with the teeth of the inner marginal edge of the segment 14, whereby the levers may be rocked rearwardly. A V-shaped brace 43 is provided, and has its arch secured at 44 to the arch of the yoke 1, while the arms 45 of the V-shaped brace have their extremities secured at 46 to the rearwardly extending bars 33, for reinforcing the structure.

The invention having been set forth, what is claimed as new and useful is:—

In combination with a sulky plow having drop axles, plow beams having plows at their rear ends carried by the drop axles, whereby as the axles are rocked said beams may be tilted to elevate said plows, lifting levers for rocking said axle, whereby the plows are elevated, windlass mechanisms mounted on the frame of the sulky plow forward of the lifting levers, rearwardly extending bars mounted on the frame and having pulleys at their rear ends rearwardly beyond the lifting levers, cables connected to and wound about the drum of the windlass mechanisms and passing over the pulleys and having their extremities connected to the levers, whereby, upon rotating the drums, said levers are rocked rearwardly to force the plows into the soil.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE STEPHEN ^{his} ~~X~~ CRAWFORD.
mark

Witnesses:

HERBERT H. DOBBS,
CLAIR CRAWFORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."