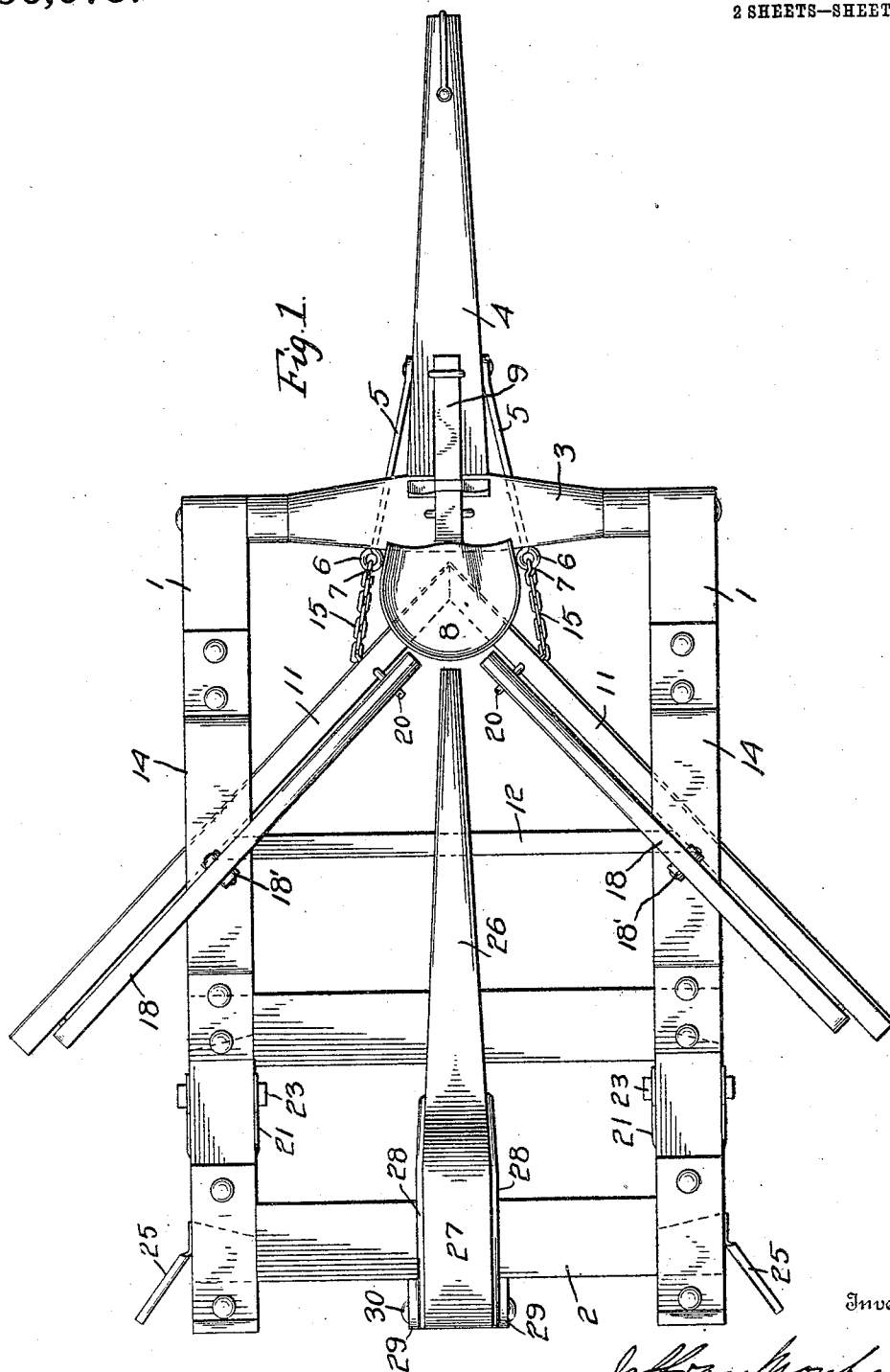


J. MONPAS.
 COMBINED SNOW PLOW AND RUTTER.
 APPLICATION FILED NOV. 21, 1908.

950,075.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.



Inventor

Witnesses

C. H. Reichenbach
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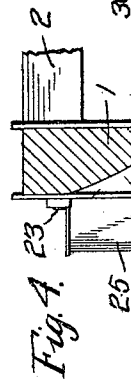
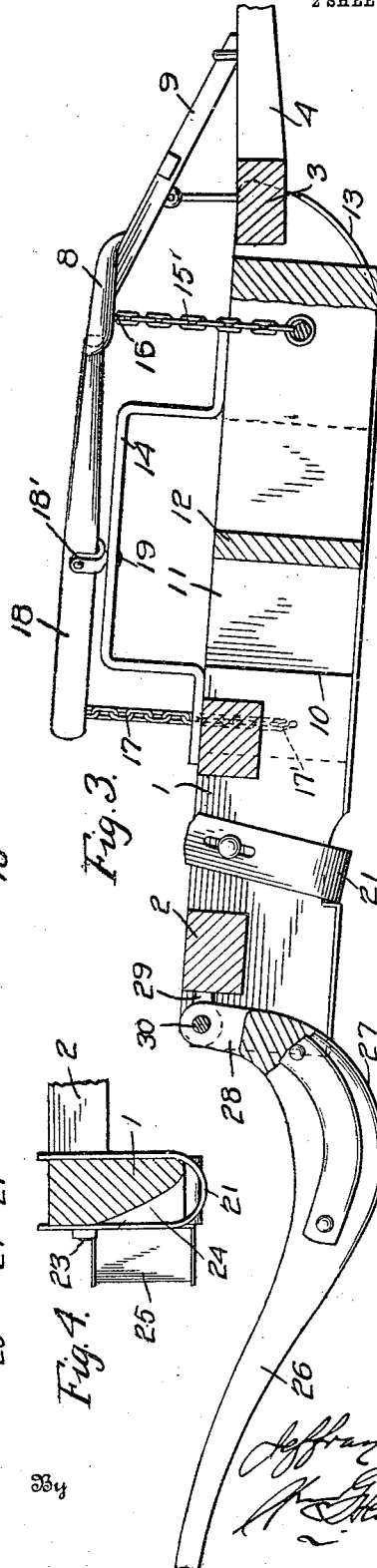
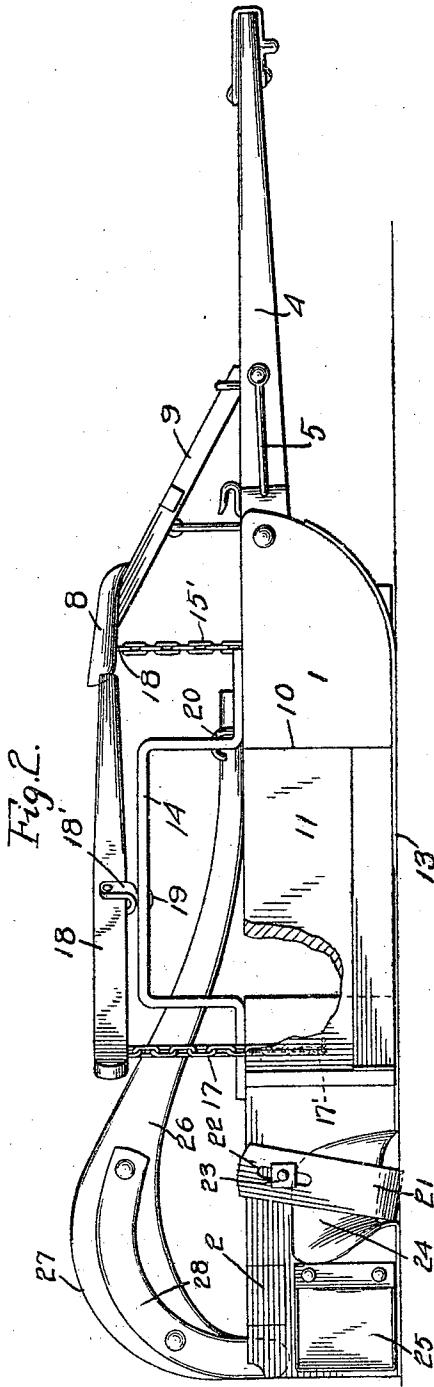
Jeffrey Monpas,
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JEFFRAY MONPAS, OF CHIPPEWA FALLS, WISCONSIN.

COMBINED SNOW-PLOW AND RUTTER.

950,075.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed November 21, 1908. Serial No. 463,913.

To all whom it may concern:

Be it known that I, JEFFRAY MONPAS, a citizen of the United States, residing at Chippewa Falls, in the county of Chippewa and State of Wisconsin, have invented certain new and useful Improvements in Combined Snow-Plows and Rutters; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to a combined snow plow, rutter and rut clearer.

It has for its object to provide a combined plow and rutter in which the wings constituting the plow will extend through the runners and beyond both sides of each runner so that each wing will deflect the snow from between the runners through and away from the outside of the runners, thus simplifying and reducing the number of parts for removal of the snow, and reducing friction so as to lighten the draft on the horses.

It has further for its object to provide a construction in which the plow-wings may be suspended at the height desired, and also readily disconnected at either side of the draft so that it may swing or be moved to one side out of the way of any obstruction that may be to one side or the other of the plow along the line of the rut or road; and also to provide for elevating and holding the plow-wings out of operative position when desired.

It has further for its object to provide means for elevating the rear ends of the runners so as to lift the rutter knives out of active position in passing over portions of the road which may be supplied with a covering to prevent the sled slipping too fast, thus permitting the plow and knives to travel over such portions without removing the covering from the road-bed or rut, and also permitting the knives to be raised in crossing railroad tracks and in turning at the end of a road so that the knives will not be dulled by coming in contact with obstructions of the character mentioned.

It has also for its object to provide a rutter-knife so formed and applied with relation to a concave portion or recess in the outer face of the runner, that the knife will

be U-shaped in form and present a cutting edge extending practically straight across the runner, and so positioned that the ice and dirt cut by the knife will pass upward over the knife and thence to the rear of the knife, the concave recess in the runner being such as to direct the ice and dirt rearwardly and outwardly from the runner and against a wing which deflects it away to one side of the rut.

To the accomplishment of the foregoing and such other objects as may hereinafter appear the invention consists in features of construction and in combination of parts hereinafter particularly described and then sought to be clearly defined by the claims, reference being had to the accompanying drawing forming a part hereof, and in which—

Figure 1 is a plan view of the plow and rutter; Fig. 2 a side elevation; Fig. 3 a vertical longitudinal section; and Fig. 4 a cross section through one runner.

In the drawings, the numeral 1 designates the runners connected at the rear by the cross bars 2 and at the front by the rocking bars 3 of the tongue 4, said tongue being braced in its connection to the rocking bar by tie rods 5 passing through the bar and the rear ends of which may be formed into eyes 6 for engagement therewith of hooks 7 to which will be connected the draft chains of the plow-wings as hereinafter indicated. To the tongue and its rocking bars will be secured the seat 8 and its support 9, the same being so positioned that the seat will lie back of the rock-bar so that when occupied by the driver the weight will be so disposed that the tongue will be counterbalanced and the weight taken from off the horses' necks.

Through openings 10 formed in the runners will pass the plow wings 11 which are connected at one end to each other and diverge rearwardly and braced apart by the brace 12. The portions of the runners lying on each side of the openings 10 will be connected together at the bottom by the metal facings or shoes 13 and at the top by the metal arches 14, thus bracing the runners and leaving a space or opening in each runner for the snow to pass through as moved rearwardly by the plow-wings. In practice each opening will preferably be four feet lengthwise of the runner and four feet in depth from the top of the arches to the metal facings or shoes of the runners. In

practice the plow-wings will be of such length and so positioned that they may lie four feet to each side of the runners, although they may be adjusted by shortening the length of the draft chains 15 which connect them to the hooks 7 that they may extend to a greater distance between the runners than to the outside thereof, as conditions may require. In either event however it will be observed that the wings extend through the runners and lie on both sides thereof so that the snow moved and deflected by them will be directed from between the runners through the openings therein and directed to one side away from the runners and beyond the ruts in the road bed, the openings in the runners affording a free passage for the snow. Thus a single pair of wings is made to serve the purpose of removing the snow from between the runners and deflecting it away from the runners and ruts, and consequently materially reducing the friction and draft. The plow-wings may be suspended at the working height desired by means of the chain 15 which connects the apex or forward end of the wings to a hook 16 connected to the under side of the seat standard, and by hooks 17' and chains 17 which connect the rear ends of the wings to levers 18 which are pivoted in forks 18' whose shanks 19 pass through apertures in the arches 14 so as to swivel the levers thereto. These levers extend to within reach of the driver occupying the seat so that he may depress the free ends of the levers and raise the rear end of the wings as occasion may require; and by placing the free ends of the levers in engagement with the hooks 20 attached to the forward ends of the wings, the wings may be elevated and held up out of operative position.

To the runners, in rear of the snow plow, are secured the knives 21 for cutting the ruts in the iced ditches of the logging road. These knives are U shaped and made to straddle the runners and are formed with elongated slots 22 through which and through the runners will pass bolts 23 for bolting the knives to the runners. The slots in the knives provide for adjusting the knives so that they may cut a rut of the depth desired. These knives are positioned so that their cutting edges will extend in a straight line across the runners, thus avoiding gouging and serving to cut clean any obstruction in the line of the rut and making a regular clear cut concave rut in the ice of the ditch so that it will not be necessary to sprinkle the rut after it is cut in order to get a smooth, regular rut. In the side of each runner where the knife is located, there is formed a recess 24 which has a concave face so formed that ice cut from the ditch and any dirt mixed with it will be

directed upward from the cutting edge of the knife, thence backwardly over the knife to the rear thereof and thence outwardly from the runner. It will be observed that the knife lies across the recess in the runner and that the recess is both to the front and to the rear of the knife. This construction together with the U shape form of the knife and the setting of the cutting edge straight across the runner, causes the ice and dirt from the rut to pass freely over and to the rear of the knife and outwardly at the rear of the knife to the outer side of the runner. In this way, a clean, clear cut rut is made and the cut ice and dirt are quickly and without clogging discharged from about the knife. To the rear of the recess and knife, there is attached to each runner a short wing or deflector 25 which removes to one side and away from the runner the ice and dirt cut from the rut by the knives.

In logging roads, it is quite common on steep grades to cover the road with hay or manure so as to prevent the sled from sliding too fast down the grade, and at such places it is desirable not to remove the covering in cutting fresh ruts in the road. To lift the knives out of action at such places, and also in turning at the end of a road and in crossing railroad tracks so that the knives will not be unnecessarily dulled, I provide at the rear of the plow and rutter a lever 26 hinged to the frame and having a cam surface 27 so that by turning down the lever and pressing thereon the rear end of the plow and rutter will be raised so as to lift the knives from cutting position. This enables the plow and rutter to slide over the covered portions of the road without removing or cutting into the covering, and also moves the knives out of danger of being dulled or injured in crossing railroad tracks or turning at the end of a road. The preferred construction of lifting lever is to form it with an enlargement or cam near its hinged end as illustrated, and to provide metal straps 28 on each side thereof through which and ears 29 on a cross bar of the frame will be passed a bolt 30 so as to hinge the lever to the frame. When not in use this lever may be thrown back so as to lie across and rest upon the top of the frame.

If there be any obstruction on either side of the road with which either wing of the plow might come in contact, one of the draft chains 15 may be disconnected from its hook and then the plow will shift to one side out of the way of the obstruction alongside the road.

The combined plow and rutter constructed as described is compact and strong, and operates with less friction and with lighter draft on the team than other constructions, and its various parts are so disposed as to give the best results for removing the snow

and cutting the ruts with liability to clogging reduced to the minimum.

I have described with particularity the preferred construction and arrangement of the several parts but it is obvious that changes can be made and essential features of the invention retained.

Having described my invention and set forth its merits, what I claim is:—

1. The combination with runners each formed with an opening for the passage of snow, of a snow plow formed of oppositely disposed diverging wings extended through the openings in the runners and lying on opposite sides of the runners, and means for suspending said plow consisting of adjusting chains connecting the front and rear portions of the plow with suitable supports, substantially as described.

2. The combination with a frame having runners each formed with an opening for the passage of snow, of a snow plow formed of oppositely disposed diverging wings extended through the opening in the runners and lying on opposite sides of the runners, and adjustable draft chains connecting the forward end of the plow with a portion of the snow plow and frame for regulating the extent of projection of the wings beyond the sides of the runners, substantially as described.

3. The combination with a frame having runners each formed with an opening for the passage of snow, of a snow plow formed of oppositely disposed diverging wings extended through said runners and lying on opposite sides thereof, draft chains connecting the forward end of the plow with a portion of the snow plow and frame, said chains being detachably connected with opposite sides of the plow to permit either side of the plow to be shifted to one side, substantially as described.

4. The combination with runners, of a snow plow composed of oppositely disposed diverging wings, levers fulcrumed on a support, flexible connections between said levers and the plow for elevating the plow, and means for engagement of said levers there-

with for holding the plow in a raised position, substantially as described.

5. The combination with runners formed with openings for the passage of snow and the extension of wings of a plow there-through, of arches spanning the openings in the runners, a plow formed of oppositely disposed diverging wings extended through the openings in the runners, and lying on opposite sides of the runners, and levers fulcrumed on said arches and connected with the wings of the plow to elevate the same, substantially as described.

6. The combination with the runners and the plow, of a rocking bar connecting the forward ends of the runners, a tongue connected to said bar, and a seat and its stand-ard carried by the tongue and its bar and positioned to aid in counterbalancing the tongue, substantially as described.

7. In a combined snow plow and rutter, the combination with runners, of U shaped rut cutting knives spanning the underside of the runners and having a cutting edge extending substantially straight across the runners, said runners being formed with recesses in their outer faces where the knives are located, said recesses forming a space in front of, over and to the rear of the knives and curved to direct ice cuttings over and to the rear of the knives and to one side of the runners, and deflectors located at the rear of said recesses to one side of the runners, substantially as described.

8. In a combined snow plow and rutter, the combination with runners carrying rutting knives, of a lever having a hinged connection with the rear of the plow and rutter frame and provided with a cam so positioned that when the lever is lowered the cam serves as a fulcrum to enable the rear of the runners and the knives to be raised, substantially as described.

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

JEFFRAY MONPAS.

Witnesses:

VESPER MORGAN,
D. G. DOUGLASS.