

No. 650,009.

Patented May 22, 1900.

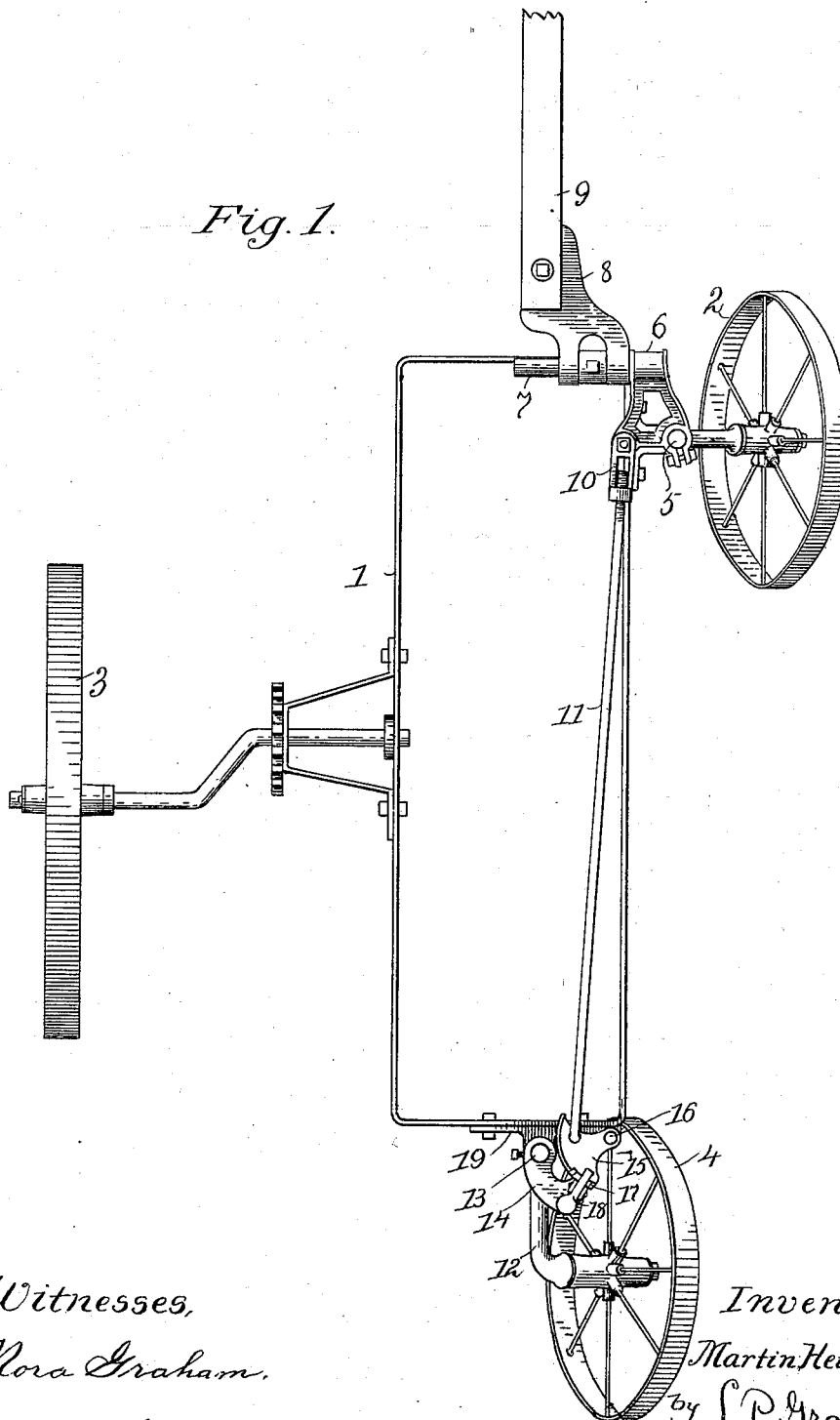
M. HEINEKE.
WHEEL PLOW.

(Application filed Feb. 19, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses,
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Inventor,
Martin Heineke
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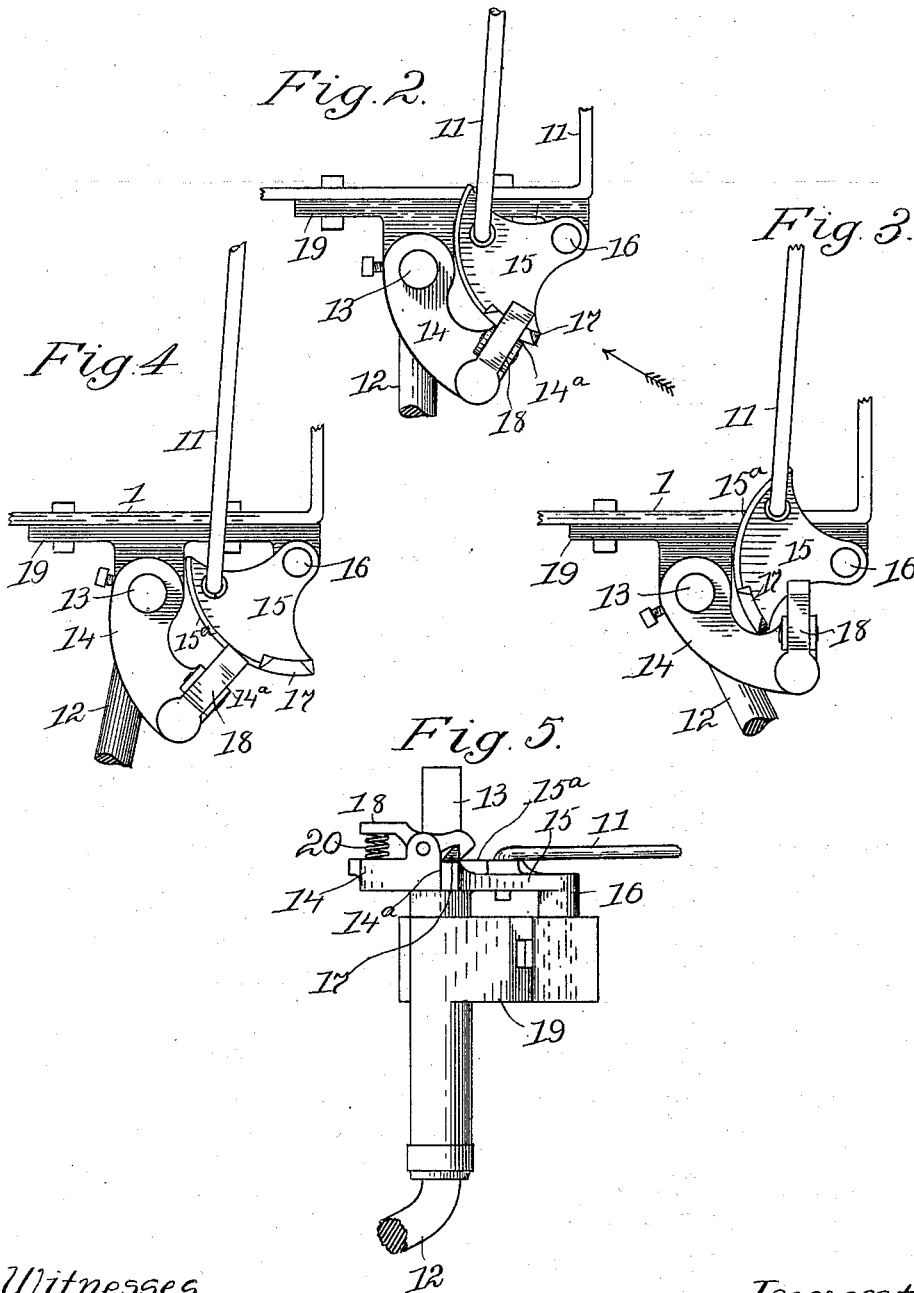
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2 Sheets—Sheet 2.



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN HEINEKE, OF SPRINGFIELD, ILLINOIS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 650,009, dated May 22, 1900.

Application filed February 19, 1900. Serial No. 5,671. (No model.)

To all whom it may concern:

Be it known that I, MARTIN HEINEKE, of the city of Springfield, county of Sangamon, and State of Illinois, have invented certain new and useful Improvements in Wheel-Plows, of which the following is a specification.

This invention relates to plows having rear caster-wheels which travel against the vertical walls of the furrows and hold the plows from taking too much land or pressing the landsides too hard against the soil. In this class of plows the rear caster-wheel acts as a rolling landside. It needs to be held from swinging in a direction away from the vertical wall of the furrow while the plow is in operation, and it must be given a certain amount of free swing in turning the plow around. These caster-wheels are controlled from the tongue, and it is necessary to perfect operation of the plow that the swing of the tongue incident to the sway of the team in moving across the field shall not be transmitted to the caster-wheel and that the tendency of the caster-wheel to swing away from the vertical wall of the furrow shall not develop side swing in the tongue. If the caster-wheel wabbles with the sway of the team, the result is a furrow of irregular width, and if the side pressure of the caster is transmitted to the tongue a rather severe and useless burden is imposed on the team and the tendency to develop side wobble is increased.

The principal object of this invention is to control the rear wheel from the tongue without imparting team wobble to the wheel or side pressure of the wheel to the tongue; and a secondary object is to hold the caster-wheel from swinging sidewise while backing the plow.

The invention is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a plan of a plow-frame with an embodiment of my invention attached thereto. Fig. 2 is a plan of the novel features of the caster-controller, showing the same in position for plowing or backing. Fig. 3 is a plan showing how the caster-wheel is given free swing when the tongue is turned sidewise in one direction. Fig. 4 is a plan showing how the caster-wheel is given free

swing when the tongue is turned sidewise in the opposite direction. Fig. 5 is an elevation of the caster-controlling mechanism from the point of view indicated by the arrow in Fig. 2.

The plow-frame, which may be of any shape and construction, is indicated at 1.

At 2 is shown a side caster-wheel. The opposite side wheel is shown at 3 and the rear caster-wheel is shown at 4. The vertical part 5 of the shaft of caster-wheel 2 is in this instance and in general use also the pivot on which the tongue swings sidewise. A bracket 6 is fastened to the vertical extension 5 of the front caster-wheel. A short shaft 7 projects sidewise from bracket 6. A bracket 8 is pivotally connected with the horizontal shaft 7, and a tongue 9 is fastened to bracket 8. A coupling-head 10 is pivotally connected with bracket 6 to one side of shaft 5, which is the pivot of the bracket, and a rod 11 extends rearward from the coupling-head and connects with a member of the caster-controller.

A bracket 19 is fastened to the rear end of the frame 1, and it provides pivot-bearings for the vertical extension 13 of the shaft 12 of the rear caster-wheel 4 and for the swingable stop-arm 15. The stop-arm is arc-formed on its swinging end. Its pivot is at 16, and it has a rib 17 at a certain place on the upper surface of its periphery. An arm 14 is fastened onto the upper end of extension 13 of the caster-wheel shaft in the plane of arm 15, and its swinging end is adapted to engage the periphery of the stop-arm while the plow is in operation.

When the plow is in operation, the rod 11 holds the stop-arm in the position shown in Figs. 1 and 2, and the tendency of the caster-wheel 4 to swing to the right brings arm 14 against the periphery of the stop-arm. The pressure of arm 14 against stop-arm 15 is in the direction of the pivot 16, and so such pressure does not tend to swing the stop-arm in either direction. In fact its tendency is slightly toward holding the stop-arm stationary on account of the friction developed. On the other hand, whatever small degree of oscillation the sway of the team imparts to the stop-arm through rod 11 neither increases nor diminishes the operative length of the stop-arm or in any other way varies the position of arm 14 and the caster-wheel 4.

The arm 14 is preferably curved on the side next the stop-arm, so that the end 14^a alone will bear against the stop-arm, and this provision affords more extensive clearance for the arm when the tongue is swung to the right in act of turning the plow around, as shown in Fig. 3. When the plow is turned around in the opposite direction, the arm 14 swings away from the stop-arm, as suggested in Fig. 4.

As the side swing of the rear caster-wheel is always toward the stop-arm while the plow is in action, there is no need for holding the two arms in contact while plowing, and my invention is complete for most purposes without any provision for fastening the arms together; but to enable the plow to be backed without permitting the rear caster-wheel to turn sidewise in either direction I form a short rib 17 on the upper surface of the stop-arm adjacent to the operative contact of arm 14 and provide arm 14 with a vertically-swingable spring-catch 18, which engages the rib when the plow is in operation. The catch has no tendency to prevent the caster-wheel from swinging to permit the plow to be turned to the right, as may be seen in Fig. 3, and as soon as the tongue is swung to the left far enough to carry the rib 17 clear of the catch the caster is free to permit and assist such leftward swing. The rib is beveled on its rear wall and on its ends, so as to facilitate the engagement of the catch under all circumstances.

The peripheral extension 15^a of the stop-arm prevents arm 14 from accidentally swinging in front of the stop-arm, and apart from this that part of the stop-arm coextensive with rib 17 is the operative part.

I claim—

1. A caster-controller for wheel-plows comprising an arm partaking of the horizontal swing of the rear caster-wheel, and a tongue-controlled stop-arm pivoted on the plow-frame

with its stop end normally presented toward the swinging end of the arm of the caster-wheel and receiving the thrust of the wheel-arm in the direction of its length.

2. A caster-controller for wheel-plows comprising an arm fastened onto the vertical pivot of the rear caster-wheel, a stop-arm pivoted on the plow-frame with its operative end normally presented into the path of the swinging end of the arm of the caster-wheel and receiving the thrust of the wheel-arm in the direction of its length, a tongue pivoted to swing sidewise and a rod connecting pivotally with the tongue to one side of the pivot thereof and with the stop-arm.

3. A caster-controller for wheel-plows comprising an arm fastened onto the vertical pivot of the rear caster-wheel, a stop-arm pivoted on the plow-frame with its stop-surface normally presented into the path of the swinging end of the arm of the caster-wheel and receiving the thrust of the wheel-arm in the direction of its length, an arc-formed forward extension of the stop-surface of the stop-arm, a tongue pivoted to swing sidewise and a rod connecting pivotally with the tongue to one side of the pivot thereof and with the stop-arm.

4. A caster-controller for wheel-plows comprising an arm fastened onto the vertical pivot of the rear caster-wheel, a tongue-controlled stop-arm pivoted on the plow-frame with its stop end normally presented into the path of the swinging end of the arm of the caster-wheel, a rib on the stop end of the stop-arm and a catch on the caster-wheel arm adapted to engage the rib.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

MARTIN HEINEKE.

Witnesses:

F. J. BUSCHMANN,
ED. V. HENRY.