

J. E. SWALLOW.

Adjustable Plow.

No. 106,294.

Patented Aug. 9, 1870.

Fig. 1.

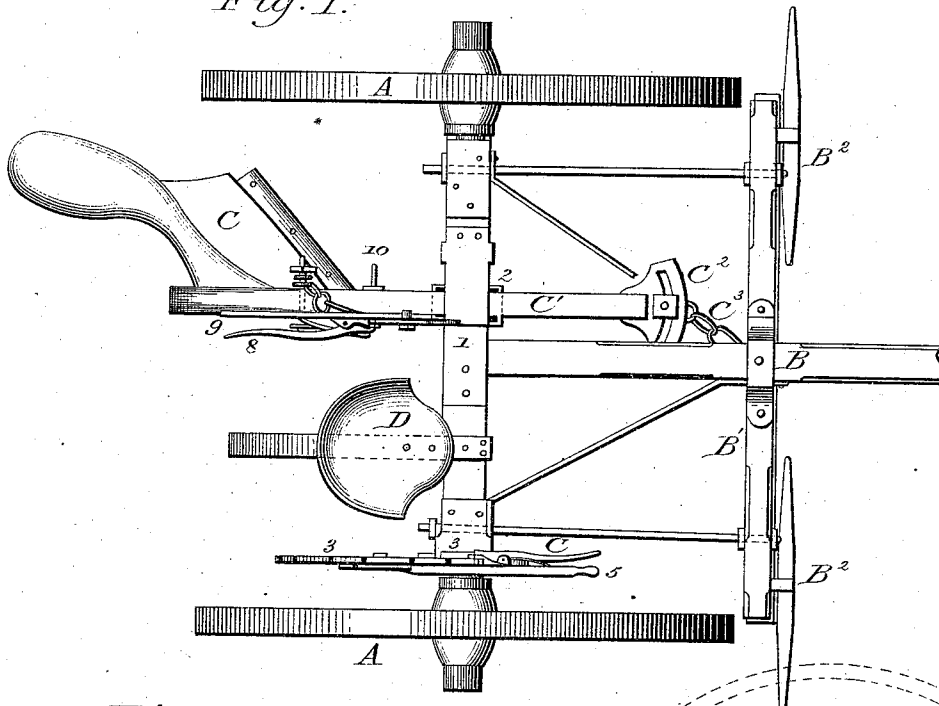


Fig. 2.

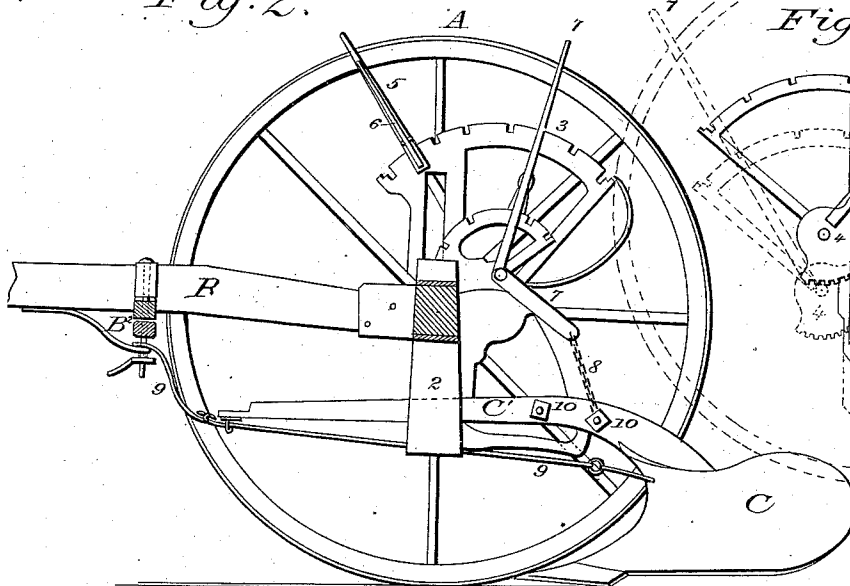


Fig. 3.

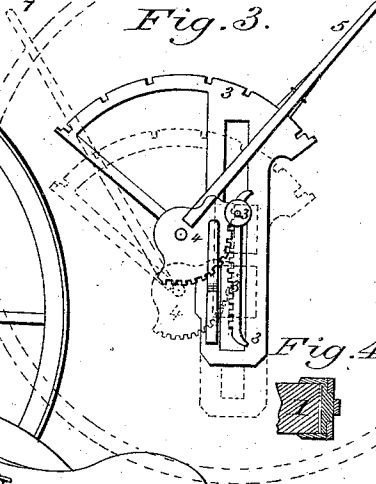


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN E. SWALLOW, OF HAGERSTOWN, MARYLAND.

IMPROVEMENT IN WHEEL-PLOWS.

Specification forming part of Letters Patent No. 106,294, dated August 9, 1870.

To all whom it may concern:

Be it known that I, JOHN E. SWALLOW, of Hagerstown, in the county of Washington and State of Maryland, have invented an Improvement in Wheel-Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the drawings, Figure 1 is a plan or top view of my improved plow, showing the wheels, the axle, and the means of raising and lowering the same, and also the plow proper and the means of connecting it with the carriage which carries it. Fig. 2 is a vertical elevation, showing the mechanism for raising the plow, and also that of raising one end of the axle. Fig. 3 is a detached view of the mechanism for raising and lowering the end of the axle; and Fig. 4 is a sectional view of the axle, showing the sliding point upon which it moves up and down.

Corresponding letters refer to corresponding parts in the several figures.

In plows of this class, as heretofore constructed, it has been common to make the wheels of different diameters, so that, when being used for plowing, one could run in the furrow and the other upon the surface of the ground, and yet have the axle of the carriage in a horizontal plane. This form of construction has been found to be very objectionable, because, when so constructed, great inconvenience has been experienced plowing the first furrow and in moving the machine from one field or place to another.

This invention is designed to remedy the objection above referred to; and to this end it consists in combining with the axle of the carriage a slide for the purpose of elevating one end of such axle above the other, or, in other words, for dropping one wheel below the other; and it further consists in providing a vertical slot or guide in the axle, in which the beam of the plow moves, and by which it is guided; and it further consists in the arrangement of the pole of the carriage, and in the combination and arrangement of the parts connected therewith, as will be more fully described hereinafter.

A in the drawings refers to the wheels of the carriage, they being, in this case, of equal diameter.

B refers to the pole, which is attached to the

center of the axle, and is secured in position by rods and braces, in the manner shown, or in any suitable manner, it being provided with a cross-bar, B', to which the double-tree is attached.

C refers to a plow, which may be of any approved pattern, it being provided with a beam, C', a guide device or attachment, C², for governing the width of the furrow to be turned, and also a chain for connecting it to the tongue or pole of the carriage, and for driving the plow when in the ground.

D refers to a seat, upon which the driver sits when the machine is in motion, it being attached to a curved spring, the opposite end of such spring being attached to the axle.

The above-recited parts form no part of my present invention, and consequently need not be more particularly described here.

The numeral 1 in the drawings refers to the axle of the carriage, which is of novel construction, it being provided at or aside from the center with a vertical slot, in which the beam of the plow moves up and down. Such slot is, by preference, made of metal, with flanges upon its outer sides, to which the sections of the axle are to be secured in such a manner as to cause the parts to form one axle. The object of this slot is, first, to provide for the vertical movement of the plow and its beam, and also to serve as a guide to control the lateral or side movements of the same. In practice I place this slotted guide to one side of the center of the axle.

At the end of the axle nearest the wheel which runs upon the surface of the ground there is fixed a socket, 3, which embraces flanges formed on the arm of the axle which enters the wheel, such arm having a horizontal portion upon which the wheel revolves and a vertical portion for working in the socket. This socket has a vertical slot in it and upon its upper end a quadrant, which has notches in its upper surface for receiving a dog, which holds the arm in position.

Upon one edge of the vertical portion of the arm, which is numeral 3', there is formed a toothed rack, the teeth of which correspond with those formed upon the gear 4, so that as the same is moved by means of the lever 5 the wheel will be raised or lowered with reference to the axle, so that, one of the wheels running upon the surface of the ground and the other in the

furrow, the axle shall be level or horizontal. The lever 5 is provided with a dog, 6, and spring upon its side, and they are so arranged that by pressing the upper end of the dog against the lever its lower end will be drawn out of the notches in the quadrant upon the socket 3, which will prevent the position of the lever being changed, when, by letting go of the upper end of the dog, the spring will carry the lower end of such dog into another notch in the quadrant, and thus any desired amount of elevation or depression may be given to the wheel with reference to the axle.

The numeral 7 refers to a lever, which is provided with a dog, 8, and a spring, which are arranged in a manner similar to that above described, the dog 8 fitting into notches formed into a quadrant formed upon the upper end of guide-slot 2, near the center of the axle. This lever is what is termed a "bell crank" lever, its lower arm extending out from the lower end of the upper one at, or nearly at, a right angle thereto. To the outer end of this short arm there is attached a chain or rod, which extends to and is connected with the beam of the plow, in order that, as the upper arm of lever 7 is thrown forward, the plow may be raised from the ground, and, by allowing the dog to enter one of the notches in socket 2, held in an elevated position while being transported from place to place.

The numeral 9 refers to a rod, the rear end of which is attached to the mold-board of the plow, or to the frame to which such mold-board is secured, from which point it extends to and is connected with a bolt which secures the double-tree to the tongue or pole.

It will be observed that the plow is drawn

entirely by the rod above alluded to, so that, in whatever position the front end of the beam may be, the draft is always central and in a straight line.

It will also be observed that the double-tree is arranged below the tongue or pole, which is regarded as of great importance, as it has a tendency to raise up the forward end of such pole, and thus relieve the necks of the horses from its weight and downward pressure.

The numeral 10 refers to a staple, which passes through the beam of the plow at a point near where it is attached to the mold-board and guide forward upon the vertical slotted guide 2, its office being to guide and steady the rear end of the plow.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The axle 1 of a sulky-plow, having a guide box or slot, 2, substantially as and for the purpose set forth.

2. The arrangement, in a sulky-plow, of the axle 1, guide-box 2, socket 3, having a quadrant upon its upper portion, lever 5, sliding arm 3', segmental gear 4, draft-rod 9, and segmentally-slotted guide C², substantially as herein shown and described.

In testimony whereof I have signed my name to this specification, in the presence of two attesting witnesses, at Hagerstown, in the county of Washington and State of Maryland, this 16th day of May, 1870.

JOHN E. SWALLOW.

Witnesses:

GEO. W. HOWE,

WILLIAM BIERBRING.