

Worrell & Ryerson,

Wheel Flow.

No. 113,235.

Patented Mar. 28, 1871.

Fig. 1.

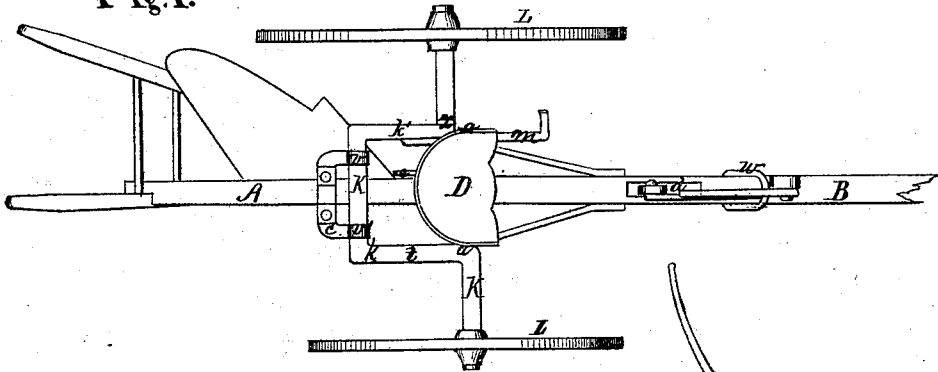


Fig. 2.

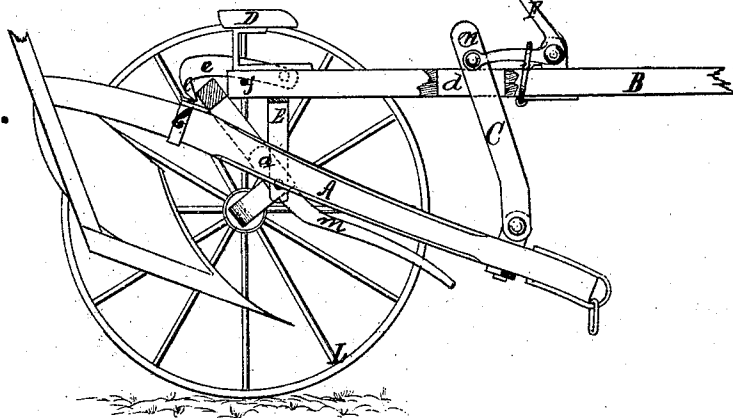
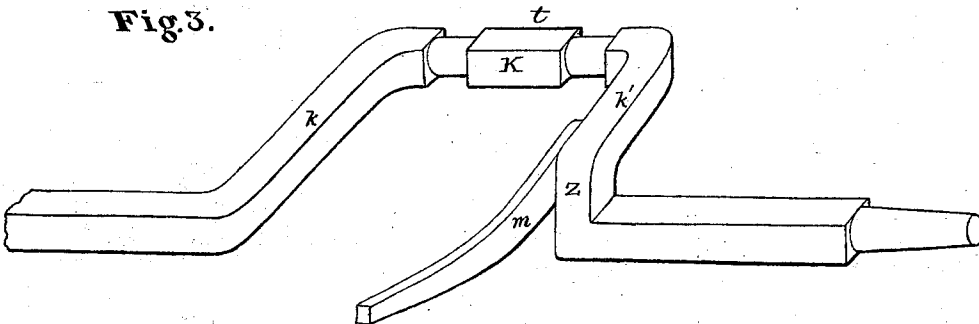


Fig. 3.



Witnesses.

Chas. Thompson
Willie Anderson

Inventor.

J. Worrell,
J. H. Ryerson,
Chipman Fosmeyer & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN WORRELL AND JAMES H. RYNERSON, OF CLAYTON, INDIANA.

IMPROVEMENT IN SULKY ATTACHMENTS FOR PLOWS.

Specification forming part of Letters Patent No. **113,235**, dated March 28, 1871.

To all whom it may concern:

Be it known that we, JOHN WORRELL and JAMES H. RYNERSON, of Clayton, in the county of Hendricks and State of Indiana, have invented a new and valuable Improvement in Sulky Attachments to Breaking-Plows; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a plan view of our invention. Fig. 2 is a central vertical section of the same. Fig. 3 represents the axle in perspective.

Our invention has relation to sulky attachments for plows; and it consists in the construction and novel arrangement of devices designed to enable the operator seated on the sulky to manage the plow with facility.

The letter A of the drawing designates the plow-beam, which is secured to the bent axle of the sulky by the clamp *b* and bent arm *c*.

B represents the pole of the sulky, slotted at *d* for the passage of the connecting-bar C.

To the rear end of the pole are secured the seat D and the braced arms E, to which the bent axle is pivoted. Under the seat is attached, to the side of the pole, the automatic cam-hook *e*, which is prevented from descending below a certain point by a stop, *f*. In front of the seat is pivoted to the pole B an elbow-lever, F, the lower end of which is adjustable in the perforations *n n* of the bar G, which sustains the forward end of the plow-beam.

K represents the axle. This axle has a double bend, in order to enable it to serve certain efficient purposes, in connection with the wheels L L, which are of unequal diameters. This bend may be described as follows: Let us suppose the plow to be down or in the ground. Starting from the smaller wheel on the land-side, the axle runs inward, as an extension of the spindle, for a certain distance; then bends to the rear horizontally, at K, in the form of the letter U, the last arm, *k'*, of the bend being shorter than the first arm, *k*. At the end of the short arm *k'* the axle bends vertically downward at *z*, and thence outward in line with the spindle of the larger wheel.

The long arm *k* is pivoted to the support E at a short distance in rear of the first bend of the axle, above described. The opposite support E is not pivoted to the axle, but to the broad portion of the foot-lever *m*, in front of the axle, thus bringing the pivot-points *a a* on a level and opposite each other, the arms E being of equal length.

In its transverse section the axle is square, except at the spindles and at the journals *v v*, which turn in the bearings formed at each end of the horizontal arm *c*, which is clamped to the plow-beam.

The end of the cam-hook *e* is allowed to project somewhat in rear of the end of the sulky-pole, and when the square axle is brought up by the foot-lever *m* its upper rear corner strikes against the beveled nose *l* of the hook, raising it, so that it passes over the rear face of the axle-bar, automatically descending and catching on the rear under corner of the axle-bar, when the bent portion is brought up against the end of the pole.

w designates a loop pivoted to the pole, and serving, when turned to the rear, as a catch to prevent the plow-beam from rising beyond a certain point, by binding against the end of the elbow-lever F. When the ring or loop is thrown forward the elbow-lever is untrammelled, and can be operated to raise the forward end of the plow-beam as high as may be desired.

The short bend *z*, downward or in a direction perpendicular to the plane of the large bend *t* of the axle, is designed to serve important purposes. When the axle is made with this double bend the difference between the diameters of the wheels is lessened. Also, the leverage obtained by this arrangement from the weight of the driver greatly assists in raising the plowshare out of the ground and up to the position of transportation. So much is this the case that when the axle is against the end of the pole, the plow being raised, it will be kept in this position automatically by the weight of the driver; therefore there is little or no strain on the cam-hook.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a sulky for plows, the axle herein de-

scribed, having the double bend *k z*, substantially as specified.

2. In a sulky attachment for plows, in combination with the square axle bent in **U** shape and pivoted, as described, the bent arm *c*, cam-hook *e*, and stop *f*, substantially as specified.

In testimony that we claim the above we have

hereunto subscribed our names in the presence of two witnesses.

JOHN WORRELL.

JAMES H. RYNERSON.

Witnesses:

DAVID HUFFERD,
JOHN SHAFER.