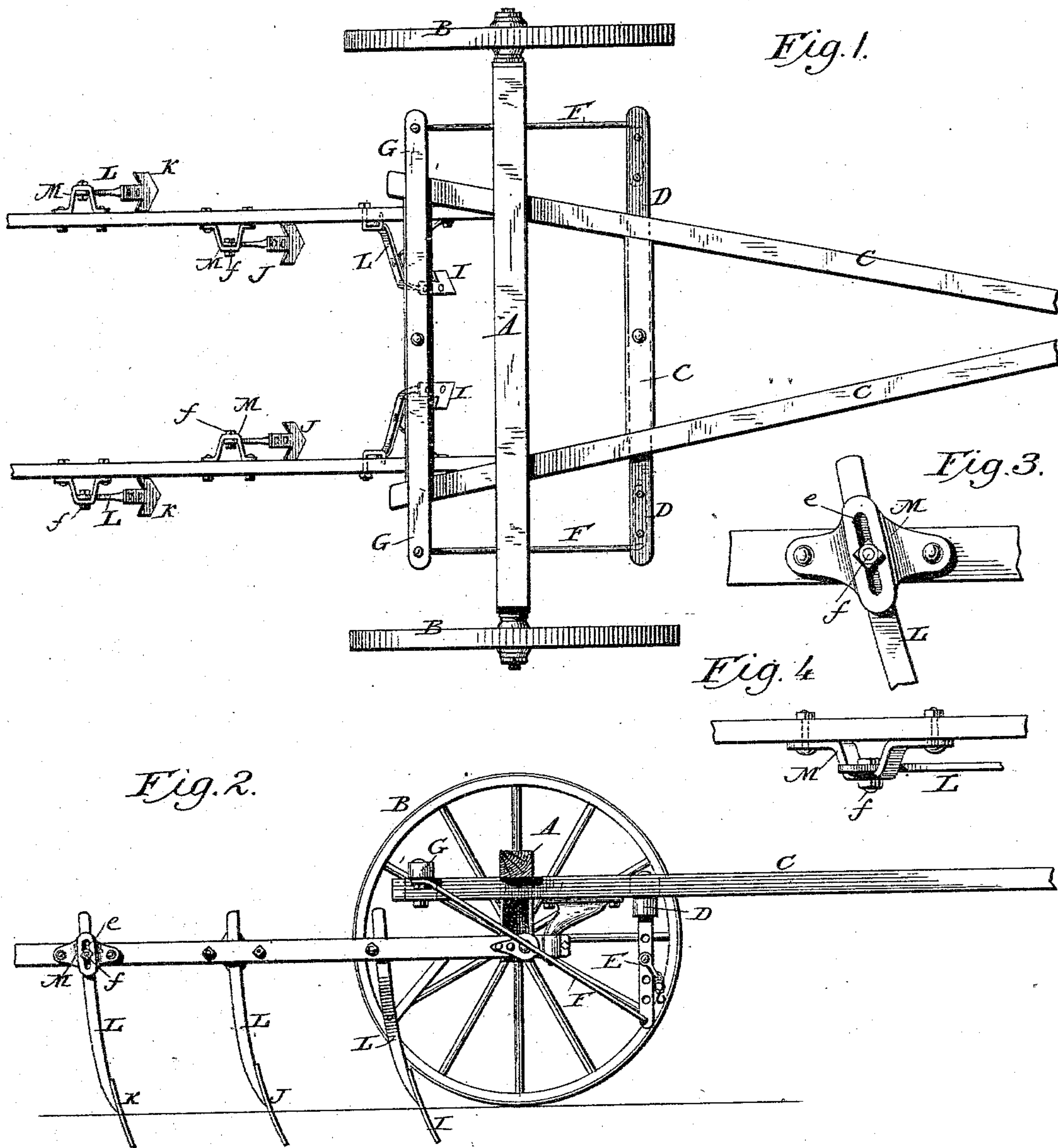


(No Model.)

N. TROWBRIDGE.  
WHEEL CULTIVATOR.

No. 295,082.

Patented Mar. 11, 1884.



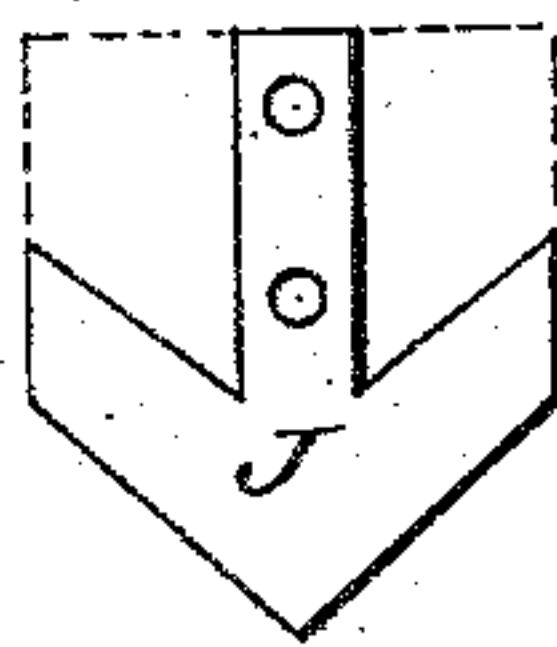
Attest.

Frederic P. Hollingsworth  
Harry Shipley

Fig. 5.



Fig. 6.



Inventor.

Newton Trowbridge  
By his Attorney,  
Philip T. Dodge.



# UNITED STATES PATENT OFFICE.

NEWTON TROWBRIDGE, OF COUNCIL GROVE, KANSAS.

## WHEEL-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 295,082, dated March 11, 1884.

Application filed October 11, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, NEWTON TROWBRIDGE, of Council Grove, in the county of Morris and State of Kansas, have invented certain Improvements in Wheeled Cultivators, of which the following is a specification.

This invention relates to improvements in what are commonly known in the art as "straddle-row cultivators," in which a main frame sustained by two wheels is provided, with drag bars or beams jointed thereto in such manner as to swing both laterally and vertically, the bars being provided with shovels to enter the ground.

The improvements relate to the peculiar construction and arrangement of the draft devices, the shovels, and the devices for permitting a vertical adjustment of the shovel-standards.

Referring to the drawings, Figure 1 is a top plan view of my machine. Fig. 2 is a longitudinal vertical section of the same; Fig. 3, a side view, showing the bracket by which the shovel-standard is sustained. Fig. 4 is a top plan view of the bracket or standard and the drag bar or beam. Figs. 5 and 6 are front elevations of the skeleton shovels.

Referring to the drawings, A represents the main axle, the ends of which are provided with depending brackets, having ground-wheels B mounted thereon, this construction giving the axle, in effect, an arched or raised form between the wheels.

C represents the draft-frame, consisting of two bars converging toward their forward ends, and bolted firmly at their rear ends to the under side of the axle.

The foregoing parts are or may be of the construction represented in the application for Letters Patent filed by me on the 8th day of August, 1883, No. 68,811, or of any other suitable construction.

The draft-frame has secured rigidly thereto two cross-bars, one in advance of the axle and the other at a considerable distance in rear thereof. To the forward bar of the draft-frame, underneath the frame, and in advance of the axle, I pivot at the middle an evener, D, the two ends of which are provided with depending arms or hangers E, secured rigidly thereto, each of these hangers being provided at different heights with holes to receive and

permit the vertical adjustment of the clevis or other draft device. To the rear cross-bar of the draft-frame, at a distance of from twenty-two to twenty-four inches in rear of the axle, or thereabout, on top of the frame, I pivot at its middle a second evener, G, and the ends of this evener I connect, by means of rods or equivalent connections F, with the lower ends of the respective hangers E, as plainly represented in Figs. 1 and 2.

The essential feature of my invention, as regards these draft devices, consists in the arrangement of the forward evener beneath the draft frame or tongue, and the rear evener above the same at a considerable distance in rear of the axle, the two being connected as described. In practice it is found that this arrangement of eveners, one below and the other above the frame, is highly advantageous.

I am aware that it is old to employ two eveners, both on the under side of the frame, with connecting devices, substantially as shown. The advantage of my arrangement is due, mainly, to the fact that when the rear evener is applied on top of the frame, as shown, it is found that the draft or power applied to propel the machine has a tendency to urge the forward evener upward and the rear evener downward, and thereby tip or tilt the forward end of the tongue upward and sustain the same, so as to relieve the necks of the team from the weight and strain encountered in the use of existing machines. It will be readily perceived that when both eveners are located on the under side of the frame and the draft devices arranged in the ordinary manner the draft has a tendency to tip the forward end of the tongue downward instead of upward; hence the importance of the arrangement I have represented.

In order that the importance of the feature mentioned may be fully understood, it is to be remembered that the necks of the draft-animals are of much greater height than the arch or axle of the machine, and that consequently the tongue is required, when in action, to have an upward inclination toward the front, its forward end being usually at a height of from twelve to nineteen inches (more or less) higher than the rear end, according to the height of the team.



Having thus described my invention, what I claim is—

1. In a cultivator, the combination of the wheeled draft-frame having cultivator-beams jointed thereto, the evener D, pivoted to the under side of the frame in advance of the axle, and provided with hangers E, the rear evener, G, pivoted to the upper side of the frame at a distance substantially such as specified in rear of the axle, and the connecting-rods F, extended from the ends of the rear evener to the lower ends of the respective hangers, whereby the power or draft applied to propel the machine is caused to sustain the forward end of the draft frame or tongue.

2. In combination with a drag bar or beam,

the bracket n, having its ends secured to the beam, and its central portion offset laterally and slotted vertically, as described, the shovel-standard inserted between the bracket and the beam, and the fastening-bolt, applied as described.

3. The improved bracket, having its two ends adapted for attachment to the beam, its middle portion offset laterally and elongated vertically, to receive the shovel-standard on the inside, with a slot in said elongated portion.

NEWTON TROWBRIDGE.

Witnesses:

WESTON ARNOLD,  
JOHN R. FARNHAM.