2 Sheets—Sheet 1.

# L. WERTENBERGER & G. W. AMISS.

## SULKY-PLOW AND CULTIVATOR.

No. 192,800. Patented July 3, 1877.

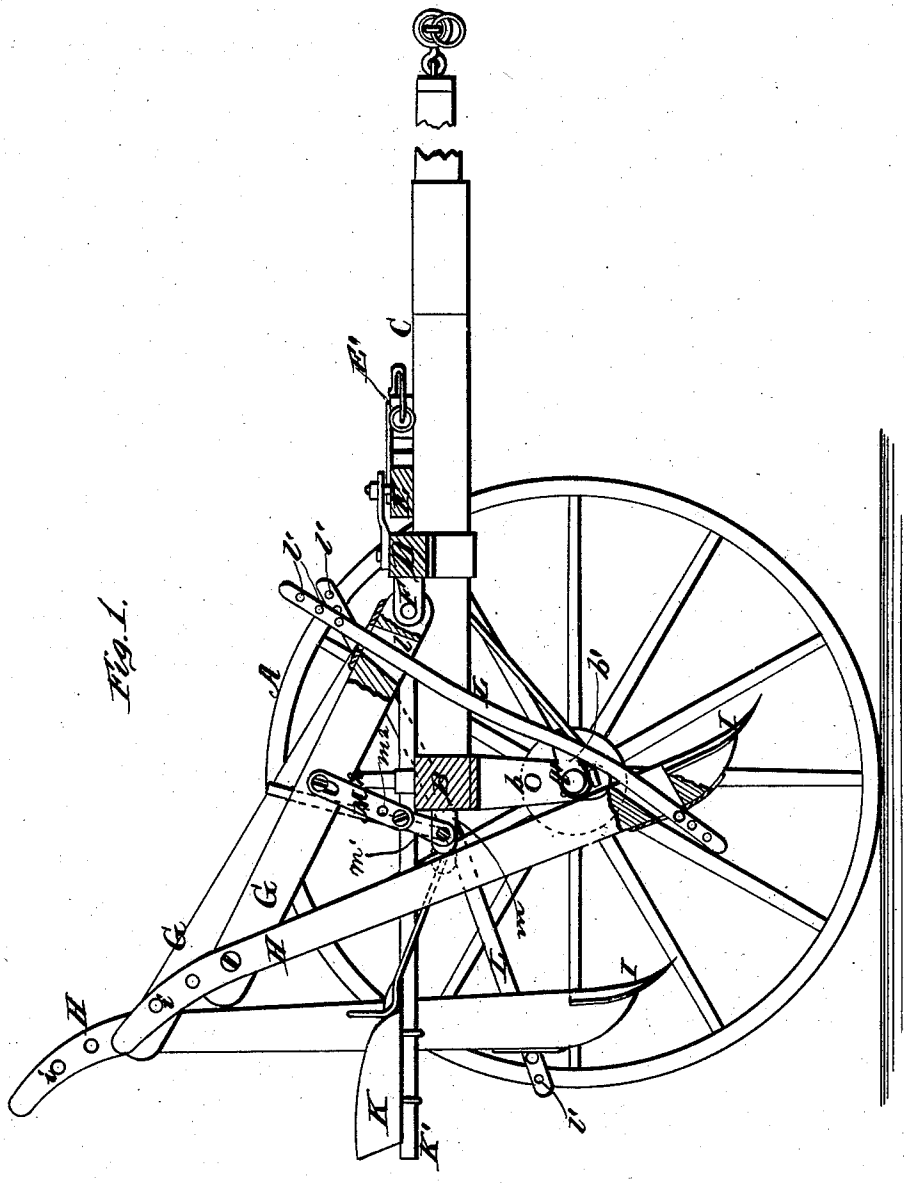


Fig. 1.

WITNESSES

Robert Gerratt

George A. Upham

INVENTORS.

Levi Wertenberger.

George W. Amiss.

Gibsons & Smith & Co.

ATTORNEYS

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

# L. WERTENBERGER & G. W. AMISS.

## SULKY-PLOW AND CULTIVATOR.

No. 192,800. Patented July 3, 1877.

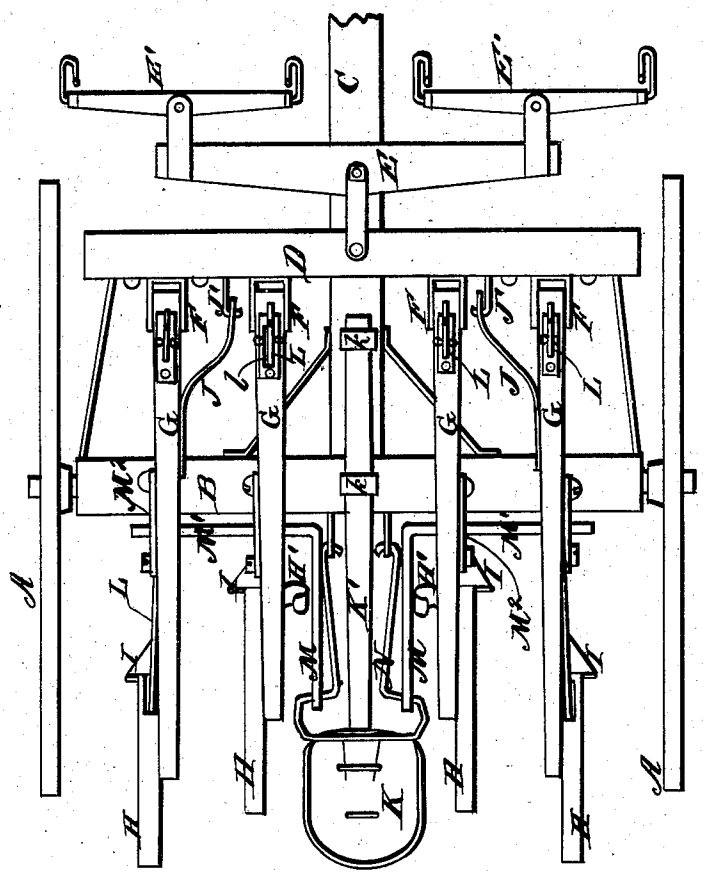


Fig. 2

WITNESSES

Robert Everett

George E. Upham

INVENTORS.

Levi Wertenberger.

George W. Amiss.

Gilmore Dewitt & Co.

ATTORNEYS

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

LEVI WERTENBERGER AND GEORGE W. AMISS, OF LAKETON, INDIANA; SAID AMISS ASSIGNOR TO SAID WERTENBERGER.

## IMPROVEMENT IN SULKY PLOWS AND CULTIVATORS.

Specification forming part of Letters Patent No. **192,800**, dated July 3, 1877; application filed March 31, 1877.

*To all whom it may concern:*

Be it known that we, LEVI WERTENBERGER and GEORGE W. AMISS, of Laketon, in the county of Wabash and State of Indiana, have invented a new and valuable Improvement in Sulky Plows and Cultivators; 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 drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of our sulky plow and cultivator, and Fig. 2 is a plan view thereof.

This invention relates to wheel-cultivators; and consists in the construction and arrangement hereinafter fully set forth.

In the accompanying drawings, A designates the two transporting-wheels of our cultivator, and B the arched axle connecting them. The vertical ends of said axle are of metal, and have two or more perforations, *b*, arranged in vertical series, so as to allow said axle to be adjusted upward or downward, the spindles A′, on which said wheels A turn, being passed through the upper or lower pair of said holes, according to said adjustment. The inner ends of said spindles are screw-threaded to receive nuts *b′*, whereby said spindles are held in place.

C designates a draft-tongue and reach, the rear end of which is attached to said axle, and which also supports a rigid front cross-bar, D. To the front of said cross-bar D a double-tree, E, is attached, having whiffletrees E′ E′; and on the rear of said cross-bar are four brackets or clevises, F, which serve as pivots for the front ends of four beams, G, arranged two on each side of said reach or tongue. To the rear ends of said beams are pivoted the upper ends of standards H, which are provided at their lower ends with plow-points I. Said standards are provided with a series of holes, *i*, arranged in longitudinal series, so that said plows may be raised or lowered at will. The two outer beams G are braced by metal plates or braces J, which are attached at their rear ends to the inner sides of said beams, and pivoted at their front ends to bent rods J′ on bar D. When lowered for work, all of said beams G rest upon axle B.

K designates the driver's seat, which is supported by a horizontal seat-bar, K′, that is held to axle B and reach C by eyes or staples *k k*. Said seat may be moved backward or forward at pleasure.

Each standard H is braced by a curved bar, L, that extends from the lower part of the front of said standard upward and forward through a slot, *l*, in the beam, to which said standard is pivoted. Said brace-bars L are provided with perforations *l′*, arranged in series in the upper front end of each bar, allowing the fastening hook or pin to be shifted from one hole to another, so as to permit the adjustment of the plow-points I upward or downward.

M designates two levers or operating-arms, formed upon the inner ends of two rock-shafts, $M^1$, which are journaled in lugs or brackets *m* on the back of axle B. Each shaft $M^1$ is provided with two short arms, $m^1$, which form toggle-connections with two bars or arms, $M^2$, and support (when said toggles are straightened) the two beams G, that are on one side of the machine. By turning forward either lever or arm M, the pair of plows I on its side of the machine are raised out of operation. As these levers M are quite close to the driver's seat, either one of them may be turned forward or backward, at will, without inconvenience.

For operating both levers together, so as to raise all the plows out of contact with the ground, we employ a wire frame, N, that is pivoted to lugs on the back of axle B, and bent at the top so as to engage with levers M. By turning said frame forward, all the plows are lifted at once; by turning it backward, the plows are let down upon the ground again. Bars $M^2$ are provided with two or more holes, $m^2$, for varying the length and play of the toggles. Additional braces may be used for strengthening the various parts of the machine. The two inner standards H are pro-

vided with foot-rests H′, whereby either pair (or both pairs) of plows can be forced down into the soil.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination of pivoted frame N with levers M, shafts $M^1$, pivoted beams G, and toggle-connections, substantially as and for the purpose set forth.

2. The combination of pivoted beams G with braces J and L, standards H, rock-shaft $M^1$, and adjustable toggles, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

LEVI WERTENBERGER.
GEORGE W. AMISS.

Witnesses:
JOSEPH B. HARTER,
JOHN L. AMISS.