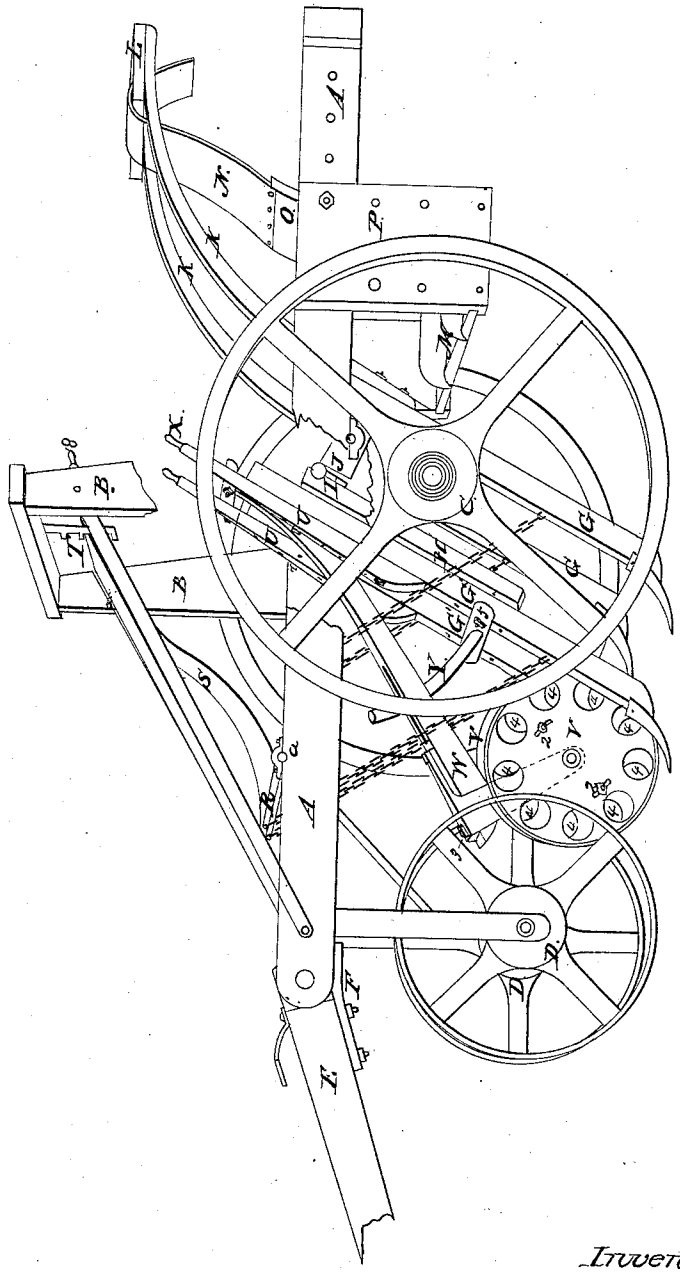
J. FERNALD.

Wheel-Cultivator.

No. 51,031. Patented Nov 21, 1865.



Witnesses.
A. C. Smith
E. F. Gerb

Inventor.
John Fernald

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

UNITED STATES PATENT OFFICE.

JOHN FERNALD, OF FRANKFORT, INDIANA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **51,031**, dated November 21, 1865.

To all whom it may concern:

Be it known that I, JOHN FERNALD, of Jackson township, Clinton county, State of Indiana, have invented a new and useful Improvement in Cultivators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

A is the main frame, partly broken away to show the arrangement more clearly.

B B is an upright frame, bolted to A, to which the wheels C are attached.

D D are two truck-wheels under the forward part of the frame A, to take the weight off the horses' necks.

E is the tongue, connected to the frame A by a roller.

F is a stop, fastened to the bottom of tongue and running under the forward cross-piece of the frame A.

G′ G′ G G are the pieces to which the shovels are attached. The two forward pieces, G′ G′, are pivoted (to allow of their being guided) to the lower end of the pieces H, which are fastened at the top to the cross-piece I, which is hinged to the cross-piece J, which, in its turn, is hinged to the frame A. The hind pieces, G G, together with the levers K K, are bolted firmly to the cross-piece J.

L is a seat-board, bolted to the ends of the levers K, on which the operator sits when the plows and trucks are to be raised from the ground.

M is the seat for the operator when the plows are in the ground. This seat is capable of being raised or lowered by means of the series of holes in P, and also may be moved back and forward by the holes in A. When the corn is small it is put down to the position shown in the drawings, to give the operator a chance to set it (the corn) up or thin it out, if necessary, and as it grows larger the seat is raised to prevent breaking it down. The handles X are raised or lowered to suit the position of the seat by means of the holes in U U.

O is the back of the seat M, and connected to it by a hinge. This back is connected to the levers K by the strap N and buckle. (Not shown.) When necessary to raise the plows over an obstruction, the operator leans back against O, which depresses the levers K and raises the plows; but in turning the machine round he gets upon the seat-board L, when his weight throws the levers K down on the hind end of the frame A and continues to tilt the frame, which raises the trucks D D from the ground until the stop F strikes the cross-piece of the frame A, when the machine may be turned on the large wheels C.

The rolling shields V V are used, when the corn is small, to prevent the clods from rolling onto it and covering it up, and removed, together with the cross-bar 5, when the corn is large enough to bear the dirt. Each of these shields is composed of two plates bolted or screwed together, the bolt passing through curved slots 2 2 in one of them, to allow of its being slipped a short distance independent of the other, for the purpose of closing the openings 4 4, &c., to let only the fine dirt through to the corn when it is very small, and to allow of their being enlarged as the corn grows larger. These shields are carried by the piece W, and the distance between them may be altered by means of the bolt 3 and the slot through which it passes. The rod Y is riveted at the bottom to the bar 5 and passes up through a long slot in W. The upper end of W is connected loosely to the bar 6, (near the handles X,) to allow it to be guided with the plows G′ G′. The piece W works loosely on the rod Y, in order that the shields V may roll over clods and accommodate themselves to the uneven surface of the ground. The brace-chains to the forward plows are hooked on hooks on the board R, which is hinged at *a* to the frame A. The lever S is fastened at its lower end to the board R, and gears near its upper end in the rack T, and is operated by the handle S. This is used to regulate the depth of the forward plows when the row of corn is on the ridge or in the open furrow of a land.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The movable seat M, connected to the levers K K, in the manner and for the purpose described.

2. The double-plated perforated rolling shields V V, when used in the manner and for the purpose described.

In testimony of which invention I hereunto set my hand.

JOHN FERNALD.

Witnesses:

G. W. GISH,

R. WATT.