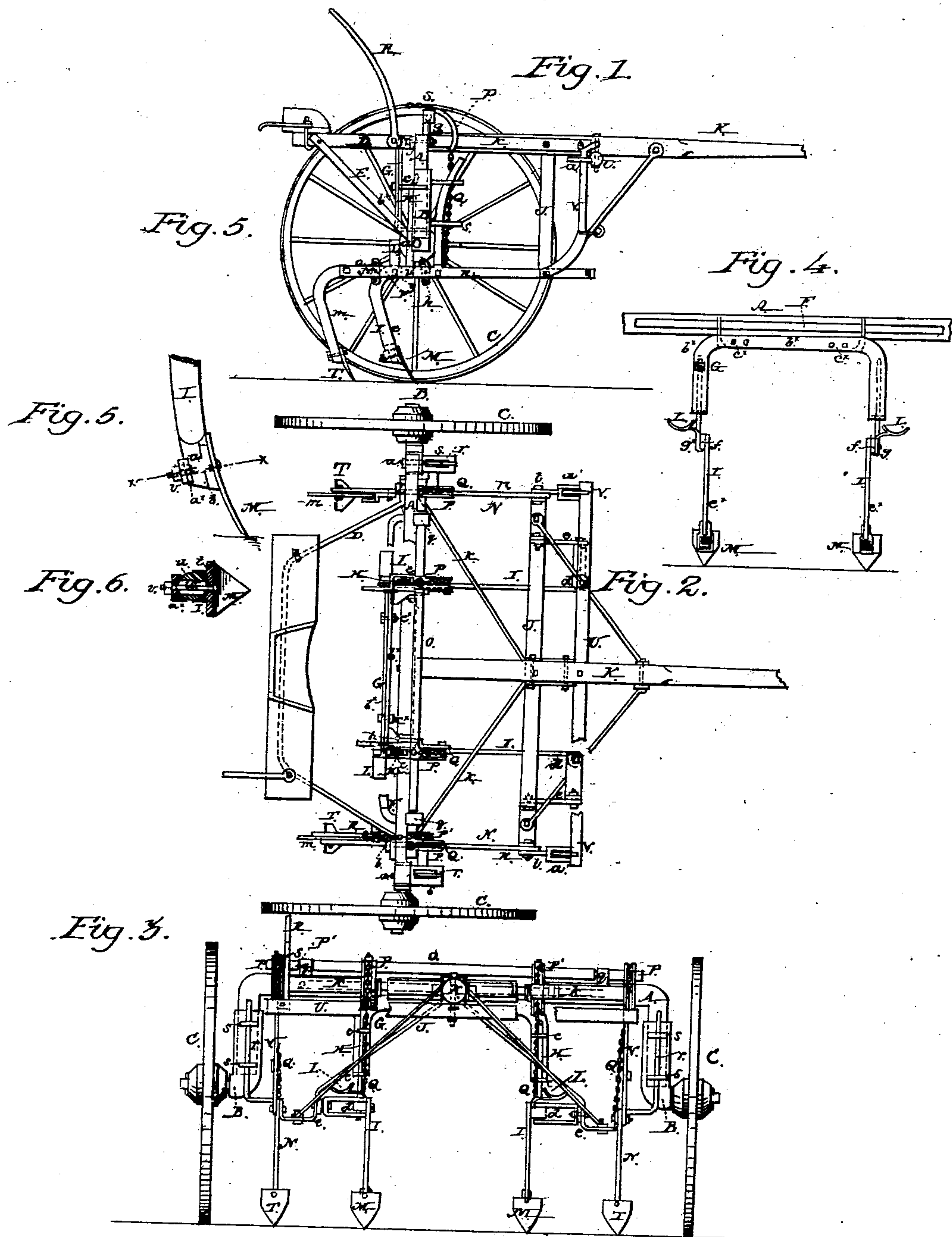


I. B. MAHON.
Wheel-Cultivator.

No. 61,674.

Patented Jan 29, 1867.



Witness:

F. A. Jackson.

Inventor:

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United States Patent Office.

ISAAC B. MAHON, OF DUNKIRK, OHIO.

Letters Patent No. 61,674, dated January 29, 1867.

IMPROVEMENT IN CULTIVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ISAAC B. MAHON, of Dunkirk, in the county of Hardin, and State of Ohio, have invented a new and improved Cultivator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings; forming part of this specification, in which—

Figure 1 is a side view of my invention, the wheel nearest the eye being moved.

Figure 2, a plan or top view of the same.

Figure 3, a front view of the same.

Figure 4, a rear view of a portion of the same.

Figure 5, a side view of an inner plough and portion of its standard pertaining to the same.

Figure 6, a section of fig. 5, taken in the line *x x*, fig. 5.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved cultivator, of that class designed for cultivating plants grown in hills or drills; and it consists in a novel construction and arrangement of the several parts, as hereinafter fully shown and described, whereby the inner ploughs may be moved or adjusted laterally to conform to the sinuosities of the rows of plants, all of the ploughs readily raised and lowered, and the principal parts of the machine rendered capable of being constructed of iron, so that it will be extremely strong and durable.

A represents the axle of the machine, the ends of which are curved or bent downward, and have the arms B B of the wheels C C attached to them by bolts *a*. These arms B are of bent or right-angular form, and have their upper parts constructed like sockets, to receive the vertical ends of the axle. To the rear side of the axle A there is attached a seat-frame, D, which is composed of a metal bar bent in the form shown clearly in fig. 2, secured by slots *b* to the axle, and braced by bars E, the lower ends of which are secured to the vertical bent ends of the axle by the lower bolts *a* which secured the arms B thereto. To the rear side of the axle A there is attached a guide-rod, F, on which a frame, G, is fitted and allowed to slide freely. This frame is provided at each end with two guides *c*, in which curved standards H attached to plough-beams, I I, work; the front ends of said beams being attached by universal joints *d d* to arms *e* secured to the lower ends of a V-shaped bar, J, which is attached to the draught-pole K. On the rear parts of the beams I I there are secured stirrups L for the driver's feet; and it will be seen that the ploughs M which are secured to the beams I I may be moved laterally either to the right or left, as may be required, in order to conform to the sinuosities of the rows of plants. The beams I are constructed of two parts, *e*^x *f*, connected by a pivot, *g*, (see fig. 1;) and the ends of the parts *e*^x have a series of holes, *h*, made in them, through any one of which, and the parts *f*, a wooden pin, *i*, passes. These pins *i*, in case of the ploughs M meeting with any obstruction, will break, and allow the ploughs to yield or give, so that they may pass over the obstruction. The draught-pole K is of wood, and is secured at its rear end to the centre of the axle A by a bolt, *j*, and is braced from the axle by the bars *k k*. N N are plough-beams, the front ends of which are connected by pivots *l* to the ends of the bar J; said pivots allowing the beams N to rise and fall, but not to move laterally. The beams N, like the beams I, are constructed of two parts, *m n*, connected by pivots *o*, and the parts *m* secured in a working position by wooden pins *p*. O is a shaft, which has its bearings *q* on the axle A. This shaft is allowed to turn freely in its bearings, and is provided with segments P, to the inner ends of which the plough-beams I I, N N, are connected by chains Q. A segment, P', is also attached to this shaft O, to the outer end of which a lever, R, is connected by a chain, S; said lever being attached to the seat-frame D. By actuating this lever R the plough-beams may be simultaneously raised and lowered. The beams N N are guided in their upward and downward movement by curved standards *r*, which pass through guides *s* formed at one end of the bolts *a*. The ploughs T of the beams N may be attached in the usual way, but the ploughs M of the beams I I are attached in a novel way, in order to admit of said ploughs being adjusted to throw the earth towards or from the plants. This is effected by having a concave socket, *t*, attached to the rear side of the ploughs M; said sockets being fitted against cylindrical parts *u* of the beams, and secured thereto by screw-bolts *b*, which pass through oblong slots *w* in the parts *u* of the beams, and through loose sockets *a*^x at the rear of the parts *u*. (See figs. 5 and 6.) By this arrangement it will be seen that the plough M may be adjusted so as to cast the earth either towards or from the plants. U represents

the double-tree attached to the draught-pole K, and having eyes a' attached to its rear side, one near each end. Through these eyes a' the upper ends of bars V V pass; the lower ends of said bars being pivoted to the lower ends of the bar J. The whiffle-trees are connected to the bars V V, and by this means an efficient equalizer is obtained. I would remark that the frame G may be constructed of two parts, $b \times b \times$, connected together by bolts $c \times$, to admit of the beams I I being adjusted nearer together or further apart, as may be desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The sliding-frame G fitted on the rod F at the rear of the axle A, in combination with the plough-beams I I, connected at their front ends by universal joints $d d$ to arms e secured to the lower ends of the bar J, and provided with curved standards H, which work in guides c attached to frame G, substantially as and for the purpose specified.
2. The plough-beams N N, connected by pivot-bolts to the lower ends of the bar J, and provided with curved standards r , which work in guides s formed at one end of the bolts a , which secure the arms B to the axle A.
3. The shaft O, provided with the segments P', to which the plough-beams I I, N N, are connected by chains Q, and also provided with a segment, P, to which a hand-lever, R, is connected by a chain S, all arranged for the purpose of raising and lowering the ploughs, substantially as set forth.
4. The whiffle-tree bars V V, having their lower ends pivoted to the lower ends of the bar J, and their upper ends connected with the double-tree U, substantially as and for the purpose specified.
5. The securing of the ploughs M to the beams I I by means of the sockets t at the rear sides of the ploughs, the loose sockets $a \times$, and the screw-bolts v which pass through the oblong slots w in the beams I I, substantially as and for the purpose set forth.

ISAAC B. MAHON.

Witnesses:

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