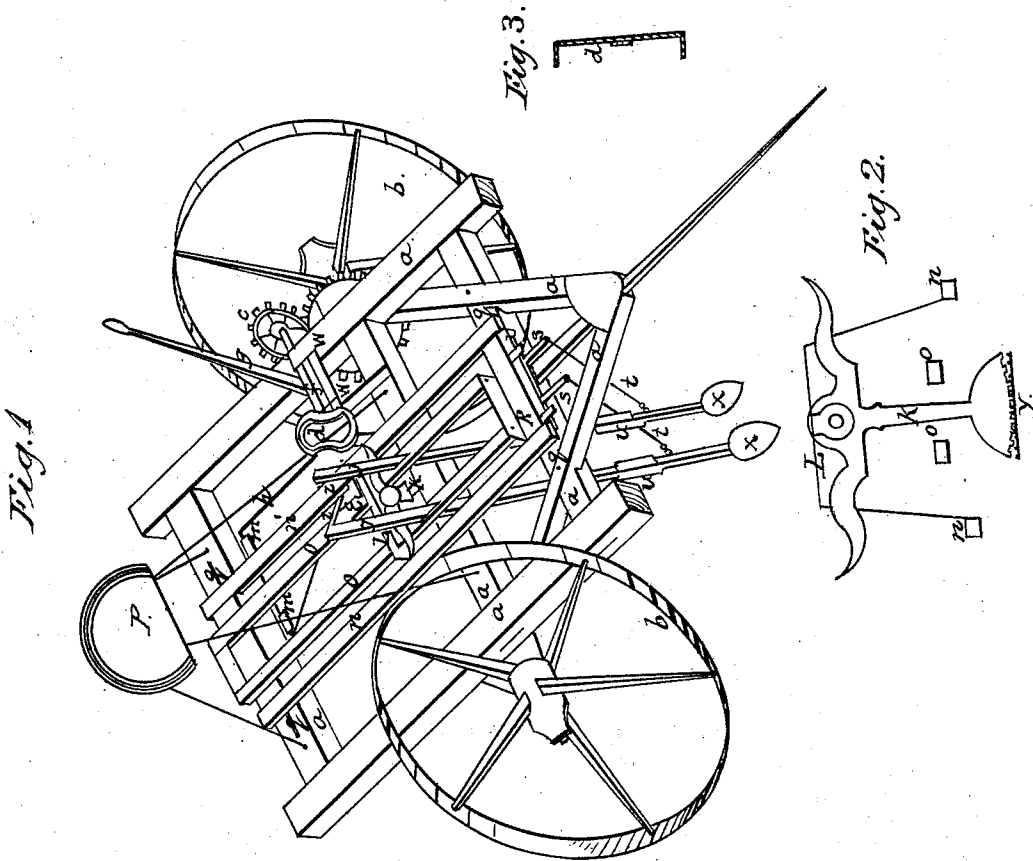


L. B. MOORE.
Wheel-Cultivator.

No. 57,752.

Patented Sept 4 1866.



Witnesses,
Daniel Ellow
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UNITED STATES PATENT OFFICE.

L. B. MOORE, OF JANESVILLE, WISCONSIN.

IMPROVEMENT IN CORN-CULTIVATORS.

Specification forming part of Letters Patent No. 57,752, dated September 4, 1866.

To all whom it may concern:

Be it known that I, L. B. MOORE, of the city of Janesville, in the county of Rock and State of Wisconsin, have invented a new and Improved Corn-Cultivator; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a perspective view; Fig. 2, a vertical section of the sliding table *n n' o o'*, the hanger *L*, stirrup *k*, and ratchet *y*; Fig. 3, a vertical section of the cam *d*.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my said cultivator in any of the usual forms, with as many shovels as may be thought practicable or useful, two of which said shovels—to wit, *X X*—are attached to the levers *j j*. Now, these said levers are permanently attached to the beams *O O*, and incline downward to the front. It is seen, also, that these said beams *O O* are pivoted at both ends thereof, and are therefore susceptible of a rocking motion, and hence it follows that the said levers may be brought in close contact at the lower end thereof, or separated at any desirable distance; and it may be proper to state in this connection the object of this peculiar mechanical construction and arrangement of the several parts mentioned, that the inquirer may see at a glance the great utility of the said invention, and more fully comprehend the whole thing as we proceed to explain the connection of the several parts.

The object, then, is briefly this: that every foot of the ground may be thoroughly cultivated in one-half of the time and with one-half the labor required of all other machines of this class; that whereas it follows of necessity to cross-cultivate with other machines is indispensable, with my improvements it is only necessary to cultivate one way. Why? Because the shovels *X X*, being attached to the levers *j j*, (which have an oscillating motion as the said machine moves forward,) meet at regular intervals between the hills of corn, and again separate automatically as they approach each and every succeeding hill, passing on

either side thereof, and again closing, as before, while passing between the said hills.

I will now proceed to explain how the said motion is imparted to the said shovels. As before stated, the beams *O O* are pivoted at each end thereof and susceptible of a rocking motion. Now, it is obvious that whereas the said levers are attached to the said beams, it follows, of course, that a corresponding rocking or oscillating motion is imparted to the said shovels when the said beams move. Nor does it matter by what peculiar mechanism this said motion of the said beams, levers, and shovels is acquired. It may be in any of the known ways and means of acquiring automatic motion.

In this arrangement I have adopted the cog-wheels *C'* and *C*, the shaft *f*, cam *d*, lever *h*, collar *E*, and connecting-rods *i i*. The cog-wheel *C'* is permanently attached to the hub of the main wheel *b*, and meshes into the wheel *C*, which is attached to the shaft *f*. The cam *d* is also attached to the other end of the said shaft, and connects also with the lever *h*, in the end of which is a slot corresponding with the thickness and depth of the said cam. Now, this said lever is supported by the boxes *m m*, which are permanently attached to the main frame *a a a*. Now, of necessity, the said lever is bent at right angles at or near the said boxes, and from thence points to the collar *E*, to which it is peculiarly connected, having the form of a wrist and sleeve or a neck and collar. Now, this said collar is hinged to the said connecting-rods *i i* at the lower end thereof, the upper end of the same being hinged to the said levers *j j*.

Now, it is obvious that when this machine moves forward upon the main wheels *b b* a vibratory motion is given to the said shovels, because as the main wheels turn the cog-wheels turn, and of necessity the shaft *f* and cam *d* must revolve, and, as the lever *h* is mechanically coupled with the said cam, an up-and-down motion is imparted to it, and of necessity, also, to the said collar; and as this collar is hinged, as before stated, to the said connecting-rods *i i*, and these to the said levers *j j*, it follows that the upper ends thereof must vibrate in the same proportion that the

said collar rises and lowers, and it also follows that the lower ends of the said levers must vibrate in a greater or less degree as they are farther removed from the fulcrum or beams O O, to which they are permanently attached.

Now, as before stated, the advantage derived from these peculiar mechanical powers and motions is truly very great, and lies in the saving of time and labor. Nor is it necessary to plant the corn in squares, or at regular intervals both ways. One way is all that is required.

Now, it will be observed that the beams O O are attached to and a part of the said table *n n o o*; that the said table rests upon the iron ways *q q q q*, which said ways are permanently attached to the cross-beams of the main frame *a a a a*; hence it is obvious that the said table may be easily moved to the right or to the left, to accommodate irregular planting, &c.; and the driver, sitting upon the seat *p*, with his feet upon the stirrup *k*, directs the course of the said shovels, and, if necessary, he swings them to the right or to the left by simply pressing upon the right or the left wing of the said stirrup. This is obvious from the fact that the stirrup is pivoted to the said hanger L, which is permanently affixed to the beams *n n* of the said table; and the lower end of the said stirrup being constructed in the form of a segment of a circle, with cogs or pins upon the lower edge thereof, and meshing into the ratchet *y*, which said ratchet is permanently attached to the middle cross-beam of the main frame *a a a a*, it is clear that the said table may be moved, as before stated, with ease, at discretion.

Now, it will be observed, also, that the said

levers *j j* are peculiarly constructed, with joints at a proper distance above the said shovels, and suspended to the arms *s s*, with the intervening rods *t t*. The said arms *s s*, as seen in the perspective view, Fig. 1, are hinged to the arms *v v* and connected with the handle R. Now, it is manifest that when the said handle is pushed forward the said shovels are lowered, and when drawn backward they are raised to a convenient height above the ground.

It may be seen, also, by a glance at the perspective view, Fig. 1, that the handle G is used for the purpose of throwing the machine in and out of gear; that the boxes W W, that hold and support the said shaft *f*, are permanently affixed to the main frame, &c.

Now, I am aware that many of the peculiarities and devices of this invention are well known and common in other machines of this class; but I am not aware that there is any plan or device in use involving the single peculiarity described in the foregoing specification—to wit, the automatic reciprocating motion imparted to the said shovels X X by the peculiar arrangement of the several parts described.

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

The construction of a corn-cultivator by the combination and arrangement of the various parts, substantially as they are described in the foregoing specification, or their mechanical equivalents, when used to produce the said automatic reciprocating motion of the said levers *j j* and shovels X X, as specified.

L. B. MOORE.

Witnesses:

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