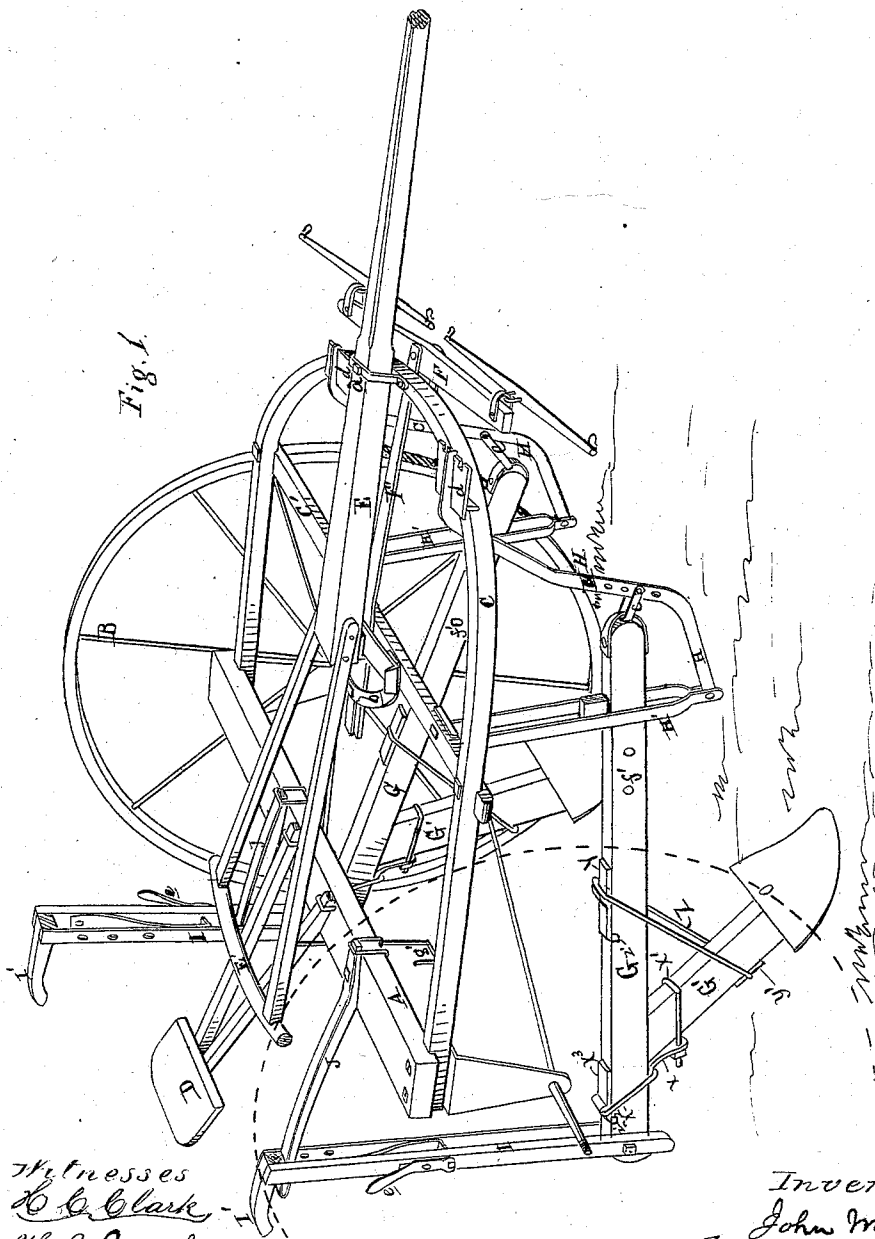


J. M. KNOX.

Cultivators.

No. 137,933. Patented April 15, 1873.



Witnesses
H. C. Clark
H. C. Matthews.

Inventor.
John M. Knox
By Dyer, Bradlee &
Associates Attys

UNITED STATES PATENT OFFICE.

JOHN M. KNOX, OF RENSSELAER, INDIANA, ASSIGNOR TO HIMSELF AND
IRA C. KELLY, OF SAME PLACE.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **137,933**, dated April 15, 1873; application filed
August 6, 1872.

To all whom it may concern:

Be it known that I, JOHN M. KNOX, of Rensselaer, in the county of Jasper and State of Indiana, have invented a new and useful Improvement in Corn-Cultivators; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which is represented a perspective view of a cultivator having my improvements applied thereto.

This invention consists, mainly, in the construction of the parts which are employed to adjust vertically the plow-beams, either for raising them entirely from the ground or for cutting at different depths. It further consists, also, in the means employed for connecting the standard to the beam, as will be fully described hereinafter.

G is the straight beam of one of my shovels, of which there are two. G' is an inclined standard mortised but little in the under side of the beam, and to its lower end is secured a curved triangular shovel of the form shown. This standard is secured by means of a clamp and counter-brace, which will now be described. x is a clamp-hook secured to the upper back part of the standard by a stirrup, x^1 , which embraces the standard, its threaded ends having screw-nuts to clamp the hook firmly to the standard. x^2 is a link slipped over the rear end of a cast-iron saddle, x^3 , lying on the rear end of the beam, before the latter is placed thereon, (the beam,) its other end engaging with the hook x . y is a similar saddle lying on the beam nearer its middle. y' is a saddle mortised, by a stud cast therewith, into the under side of the standard, about mid-height. Around these last two saddles is slipped a long link, z , which serves as a brace, to prevent the standard from being pulled away from the beam. The link x is

first placed over the beam-saddle; then the end of the standard is passed through and inserted in its socket; then the hook with the link x^2 is screwed fast. The saddles $x^3 y$ are each cast with a stud, z' , which is received into a socket in the surface of the beam, to hold them in place. To the rear end of the beam of the shovel is secured a pair of vertical posts, I, by a bolt and nut, and between their tops is inserted and bolted a handle, I'. A beam, J, projects to the rear from the axle between these posts I. At the side of the post I is adjusted a spring-lever catch, e , which, when the shovel is pulled up by the handle I', engages with the beam J, and sustains the shovel clear of the ground. A touch of the hand upon the lever releases the catch and allows the shovel to drop again. The beams J are made of steel bars, supported by a wooden backing underneath.

To gage the depth of the cuts taken by the shovels pins are passed transversely through the posts I, under the beams, which, being elastic, yield to any sudden strain on the shovels.

By removing the seat, the driver may walk behind and guide the implement, in which case a folding extension should be provided on the tiller-quadrant.

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

1. The combination, with the beam G and standard G', of the saddles $x^3 y$, hook x , stirrup x^1 , and links $x^2 z$, as described, for the purpose set forth.

2. The combination of the pivoted beam G with the post I, having the spring-catch, and the end-bar J, as shown and described, for the purpose set forth.

JOHN M. KNOX.

Witnesses:

H. F. EBERTS,
H. STANLEY SPRAGUE.