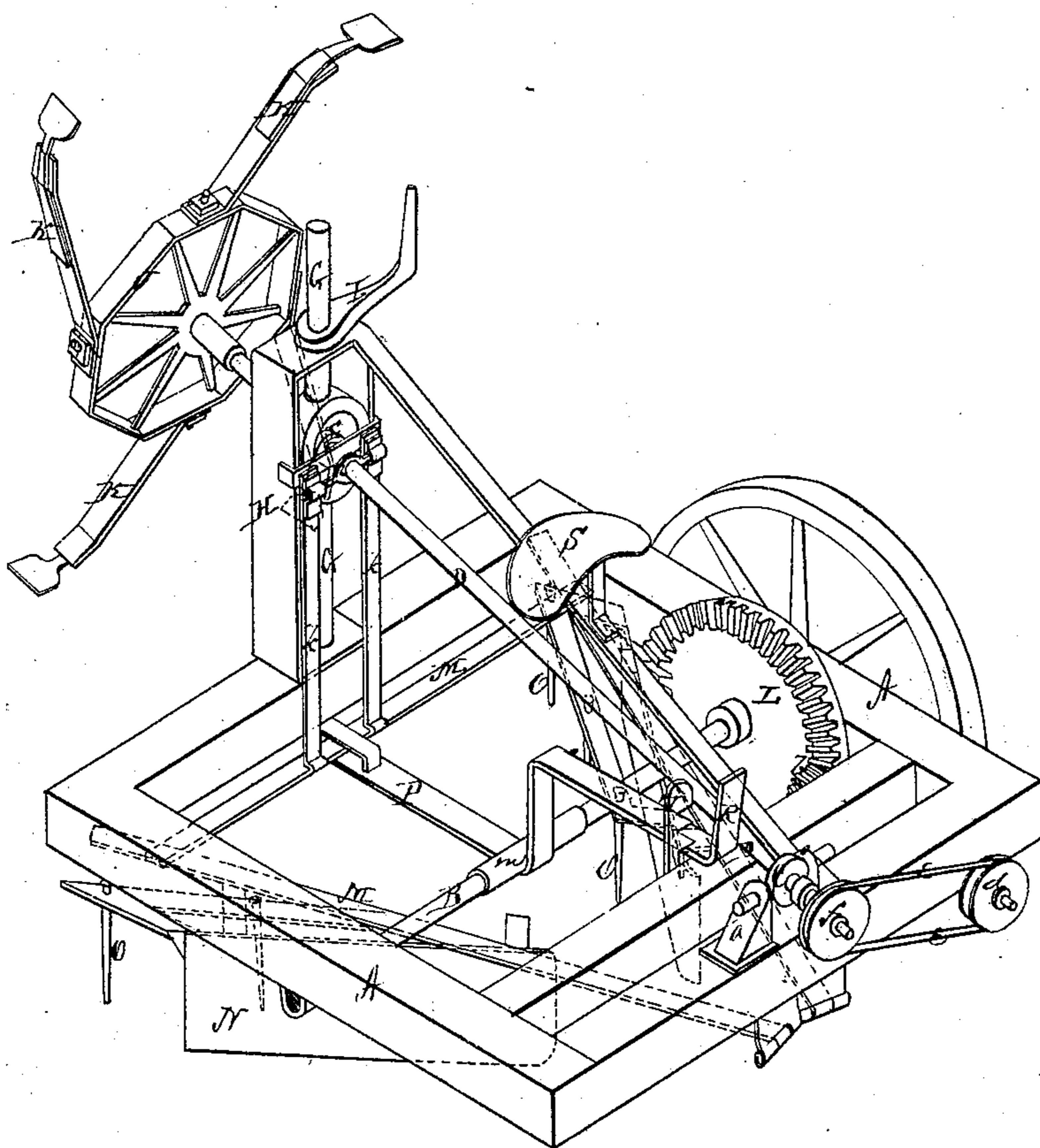


W. J. ANDREWS.  
Cotton Cultivator.

No. 101,077.

Patented March 22, 1870.



Witnesses  
John A. Ellis.  
Henry N. Miller

Inventor  
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Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM J. ANDREWS, OF COLUMBIA, TENNESSEE.

## IMPROVEMENT IN COTTON-CULTIVATORS.

Specification forming part of Letters Patent No. 101,077, dated March 22, 1870.

*To all whom it may concern:*

Be it known that I, W. J. ANDREWS, of Columbia, in the county of Maury and State of Tennessee, have invented certain new and useful Improvements in Cotton-Cultivators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which forms a part of this specification.

The nature of my invention consists in the construction and general arrangement of a "cotton-cultivator," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which represents a perspective view of my machine.

A represents the frame of my machine, which rests upon the axle B. The driving-wheels, placed upon the ends of said axle, I have not deemed it necessary to represent in the drawing.

Upon the center of the front side of the frame A are placed two ears, *a a*, between and in which a box or collar, C, is pivoted, said box being provided with journals which pass through the ears *a a*. The box C forms the front bearing for a shaft, D, which passes above the frame A toward the rear and through another box or collar, E. This latter box is pivoted within a circular or oblong enlargement on a screw-rod, G, which passes through the rear side of the frame A at the center, and also through a guide, H, attached to the frame for that purpose. A screw-crank, I, is placed on the rod G above the guide H, resting on the same, so that by turning said crank the screw-rod can be raised or lowered at will, thus raising or lowering the rear end of the shaft D, the swinging box or bearing C at the front end adjusting itself to the changed position of the shaft.

Upon the rear end of the shaft D is secured a polygonal-shaped wheel, J, having a series of hoes, K K, secured to its sides, as shown in the drawing. The hoes K K are made adjustable upon the circumference of the wheel J, so as to throw the earth, when the wheel re-

volves, in any manner desired by the operator.

The wheel J, with its hoes, is revolved in the following manner: Upon the axle B is secured a miter-wheel, L, which gears with a pinion, *b*, on the end of a small shaft placed in suitable bearings under the front part of the frame A. A pulley, *d*, on the front end of said shaft is by a cord or belt, *e*, connected with a pulley, *f*, upon the front end of the shaft D, so that when the machine is in motion the shaft D, with its wheel and hoes, will be constantly revolved. By means of the screw-crank I the depth at which the hoes are to work is easily regulated, and by the same means they are entirely lifted out of the ground when so desired.

Under the center of the front end of the frame A are hinged two bars, which, with another connecting-bar at their rear ends, form a triangular frame, M, to which the scrapers N N and harrows O O are secured. This frame M is held at its rear end by means of a loose collar, *h*, on the shaft D, which collar has journals or pins passed into two upright bars, *k k*, attached to the frame M, so that when the shaft D is raised or lowered the said frame, with the scrapers and harrows, is also raised and lowered. The upright bars *k k* also move a little from side to side on the journals of the collar *h*, so as to allow the frame M to swing somewhat from side to side when necessary.

On the axle B is placed a collar or loop, *m*, from which extends a forked bar, P, toward the rear, the end of which bar surrounds the frame M, between the uprights *k k*. A lever, R, extends forward from said collar *m*, so that the operator, seated upon his seat at S, can by pressing his foot on the lever R raise the frame M and shaft D. This lever is then held in any position set by the operator by means of the toothed bar T.

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

1. The combination of screw-rod G with rocking box E and shaft D, all operating substantially as and for the purpose set forth.
2. The auxiliary frame M, attached to main frame A, and arranged to operate substantially as and for the purpose described.
3. The auxiliary frame M, provided with

scrapers N N and teeth O O, arranged to operate as and for the purpose specified.

4. The combination of shaft A, screw-rod G, boxes C E, wheel J, with its adjustable hoes, frame A, and auxiliary frame M, all arranged substantially as set forth.

In testimony that I claim the foregoing as

my own I affix my signature in presence of two witnesses.

WM. J. ANDREWS.

Witnesses:

L. H. ATTWELL,

W. S. MCGREGOR.