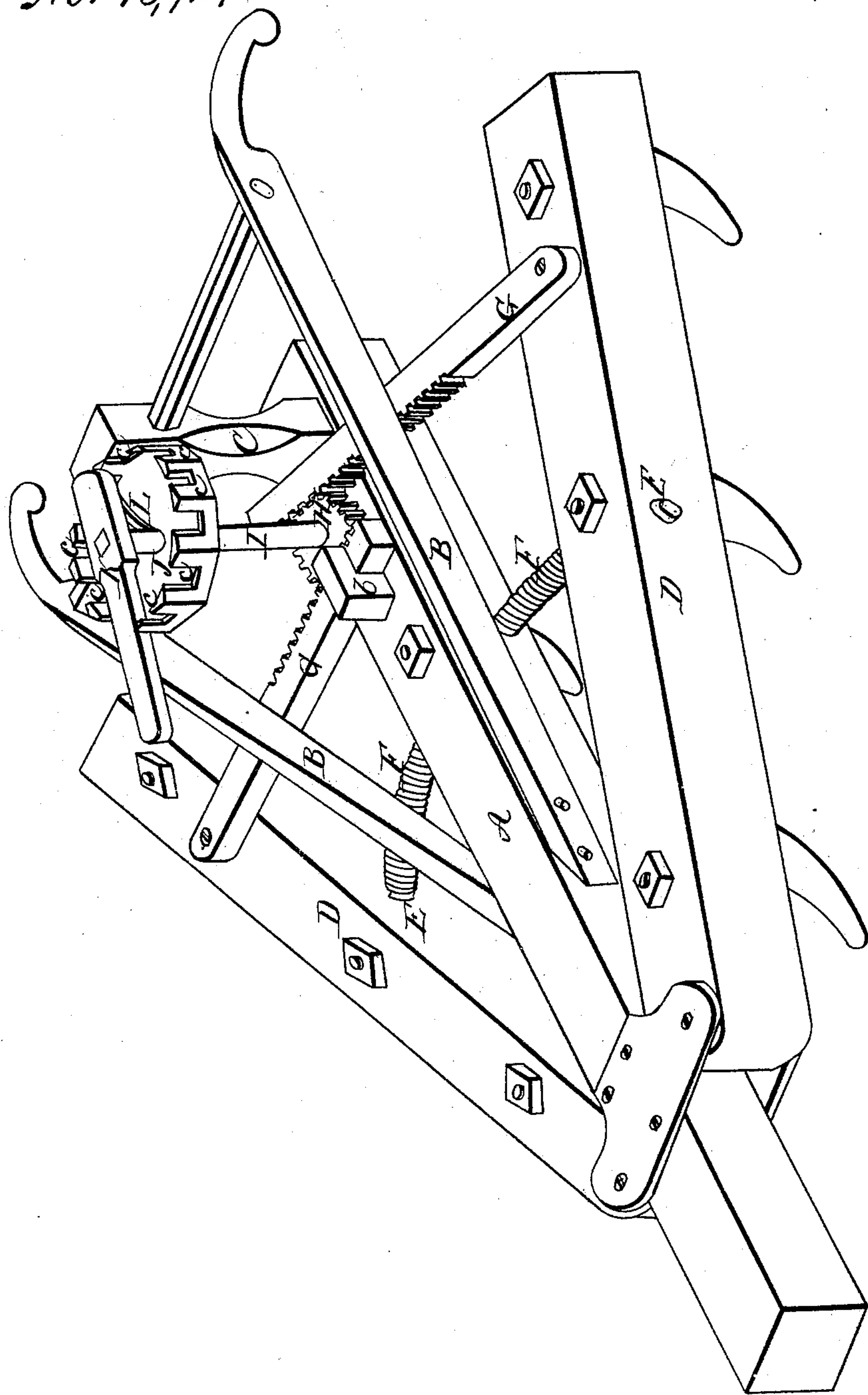


J. Summers.

Cultivator.

No. 18,714.

Patented Nov. 24, 1857.



UNITED STATES PATENT OFFICE.

JOS. SUMMERS, OF RALEIGH, VIRGINIA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 18,714, dated November 24, 1857.

To all whom it may concern:

Be it known that I, JOSEPH SUMMERS, of Raleigh, in the county of Raleigh and State of Virginia, have invented a new and useful Improvement in Expanding Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing shows a perspective view of my improved cultivator.

Before stating the nature of my invention I deem it proper to remark that I am aware that hinged expanding wings are common to cultivators; also, that it is common to expand such wings by means of rack and pinion; likewise, that it is common to have a semicircular notched stop-plate and lever for effecting the adjustment and retention of the wings in any position that they may be adjusted to. The arrangement of such parts relatively to one another, however, is not the same as in my cultivator.

The nature of my invention consists in the use of the hinged wings, which are adjusted by rack and pinion when arranged to move in and out over a stationary curved supporting and guiding rod, which has two springs coiled round it, in combination with a stationary circular notched plate, pivoted tilting lever, and adjusting-spring, all arranged as presently specified.

By my improvement several advantages are secured, to wit:

First, a complete circle of stop-notches, which will allow the adjusting-lever a greater movement for unfolding the wings, is provided.

Second, the notched plate and lever are brought to a position which will be very convenient for operating without the necessity of the farmer changing his position from the rear of the handles.

Third, the cultivator can be of ordinary form.

Fourth, the adjusting-lever will lock the wings automatically.

Fifth, the wings will be better supported, and thus the weight removed from the racks, and at the same time the wings will expand or unfold without any labor on the part of the farmer, except the lifting of the lever out of a connection with the stop-plate.

To enable others skilled in the art to make

and use my invention, I will proceed to describe its construction and operation.

A represents the beam of the cultivator; B B, the handles; C, a vertical standard which projects up from the standard and supports the handles at the rear end.

D D are the wings. They are hinged to the side of the beam near its front end.

E is the curved rod, which passes laterally through the beam and through the wings, as shown. F F are the coiled springs, arranged on this rod between the beam and the inner sides of the wings. The rod sustains the wings, while the springs expand or unfold them over said rod, which acts also as a guide to them as they are unfolded or folded.

G G are the racks. One end of each is attached to a wing and the other end loose and rests upon the rear part of the beam, being kept in place by the standard C and a stop, b. H is the pinion, which gears into these racks and moves them in and outward laterally. This pinion is secured fast in a vertical revolving shaft, I, which projects up from the beam.

J is the circular notched stop-plate, fitted loosely over the shaft I, and fastened, so as not to turn to the standard C. This plate has a series of stop-notches, c c, all round its circumference.

K is the adjusting-lever, pivoted to the upper end of the shaft, so as to play freely up and down.

L is a spring fastened to the shaft I and extending up so as to bear against the short end of the lever K, and thus force its long end down into the notches as soon as the proper adjustment has been effected.

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

The use of the hinged wings D D, which are adjusted by rack and pinion, when arranged to move in and out over a stationary curved supporting and guide rod, E, which has two springs, F F, coiled round it, in combination with a stationary circular notched plate, J, pivoted tilting lever K, and spring L, which are arranged as shown, substantially as and for the purposes set forth.

JOS. SUMMERS.

Witnesses:

G. YORKE ATLEE.

H. H. YOUNG.