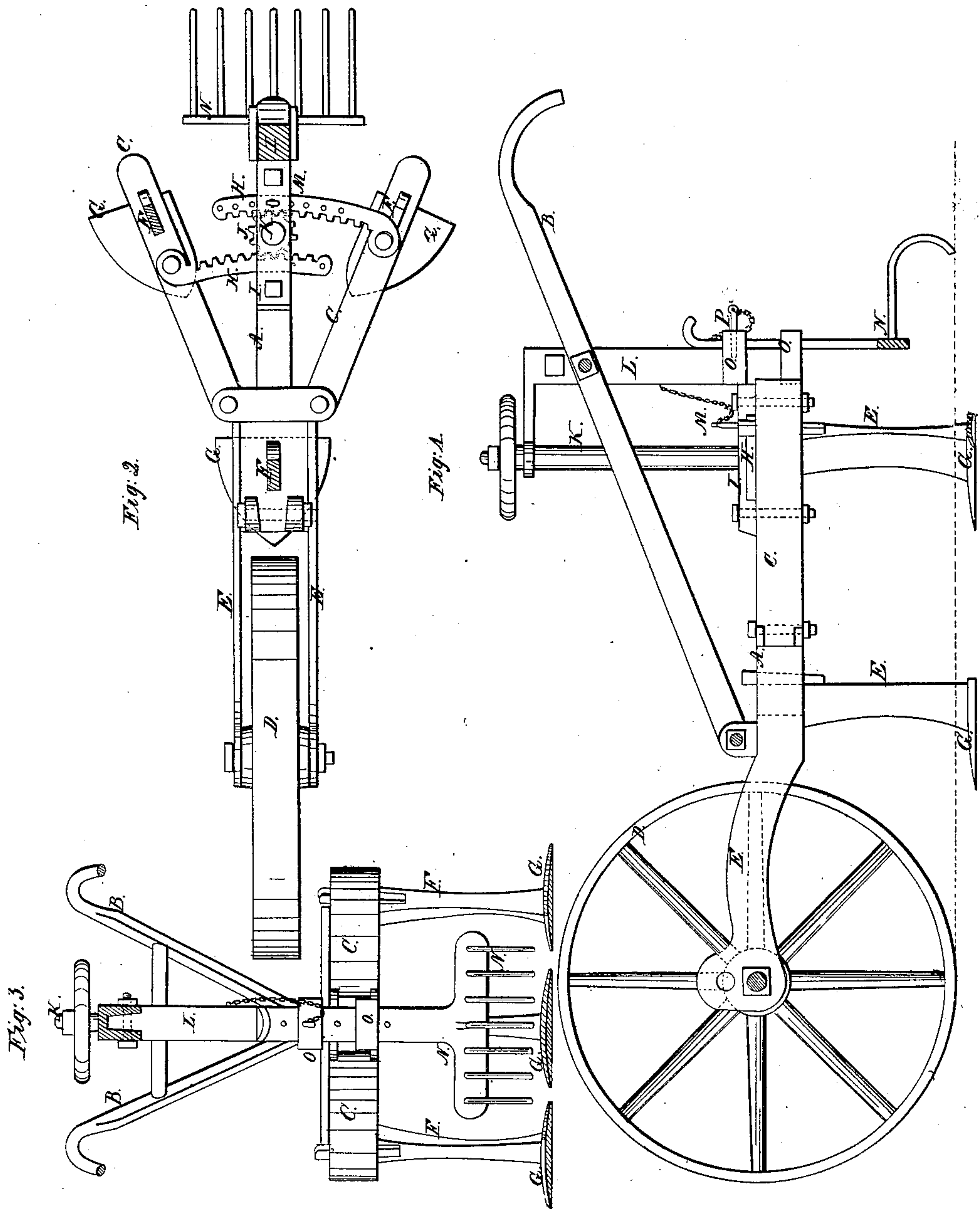


C. W. EMERSON.
WEEDER AND CULTIVATOR.

No. 32,128.

Patented Apr. 23, 1861.



UNITED STATES PATENT OFFICE.

CHAUNCEY W. EMERSON, OF ALBANY, NEW YORK.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 32,128, dated April 23, 1861.

To all whom it may concern:

Be it known that I, CHAUNCEY W. EMERSON, of the city and county of Albany, and State of New York, have invented a new and improved implement for destroying and removing weeds growing between rows of vegetables, and otherwise cultivating and improving the growth of said vegetables; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a side elevation of the improved machine. Fig. 2 is a top or bird's-eye view of same with the guiding-handles and other of the upper parts removed to more fully expose the parts claimed to view. Fig. 3 is an elevation of the back part of the same.

Where the same letters occur in the figures they indicate corresponding parts.

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

The center beam, A, is provided with handles B for pushing the machine forward and guiding the same, and side beams, C, jointed to its edges after the manner of the ordinary cultivator, and with a graduating-wheel, D, arranged between parallel bars E at its forward end, said parallel bars having two or more sets of openings in them—one above the other—for the admission of the shaft of the wheel D, and by this means enabling the shaft of the wheel to be readily removed from one set of openings and inserted in the other set, for regulating the depth of the cutter in the earth.

At the forward end of the center beam, A, and the rear ends of the side beams, C, are secured by keys or in any convenient manner curved uprights F, sharpened on their forward edges, and having horizontal cutters G, secured by screws or otherwise at their lower ends. These cutters G are made slightly convex on their upper surfaces and concave on their lower parts, and made sharp on their front edges, which edges are brought to a point from which their upper surfaces gradually rise above a horizontal line as they approach the edged portions of the uprights F, for the purpose of raising the earth at this portion and loosening or breaking it in case it is baked after being wet or in its usual state. The side

beams or wings, C, are moved nearer to or farther from each other, to accommodate their cutters to the distance apart of the rows of vegetables, by means of segmental cogged racks H, attached to the said beams by screws passing loosely through openings in their ends into the beams C, which cogged racks pass through a mortise in a casting, I, secured on the upper surface of the rear end of the center beam, A, in the center of which mortise is arranged a pinion, J, meshing in gear with the racks H, and secured on the lower end of a vertical shaft, K, having a hand-wheel at its upper end for turning it, and supported at this part by passing through an opening in a bar secured to the back upright, L, of the center beam. By turning the hand-wheel to either the right or left, the pinion J and racks H will move the side beams, C, edged uprights F, keyed to their rear ends, and the side cutters, secured on the lower ends of said uprights, farther from or nearer to each other, so as to bring the said side cutters to the proper relation to the rows of vegetables between which the machine is to pass, and when they are thus properly set they are secure in their proper position by inserting a pin, M, in an opening in the casting I, and in one of the openings of the series formed in the rear segmental rack.

By employing three cutters for skimming the earth between rows of vegetables in the manner before stated, they are not only made capable of adjustment to any width of rows, but they will more effectually destroy the weeds and loosen the earth than the ordinary angular skin-plow, and be more easily governed in their depth of cut, and less liable to get out of order.

An adjustable rake, N, is attached to the rear portion of the upright post L of the center beam, A, the upright portion of which (extending upward at right angles from the horizontal portion to which the curved teeth are secured) passes through slots formed between castings O, secured to the upright post L, and the rear surface of said post being raised and lowered in said mortises at the will of the operator, and secured at any elevation by a pin, P, inserted in an opening in the upper casting, O, and passing through one of the corresponding openings of the series formed in the upright handle or shank of the rake. The rake-teeth secured to the horizontal trans-

verse bar extend backward from the same, and are curved downward and slightly forward, so as to both pulverize and rake the earth loosened by the cutters G, and collect and carry forward the weeds, grass, &c., destroyed by the said cutters to the ends of the rows, or until they have accumulated to such a degree as to make it necessary to remove them.

In case it is desired to construct this machine on an enlarged scale, to weed and cultivate between rows of corn and plants of a like character, the metallic bars E, secured to the front part of the center beam, A, are extended beyond the front part of the graduating-wheel D, to enable a horse or horses for draw-

ing the machine to be attached to their front ends.

Having thus fully described the improved weeder and cultivator, what I claim therein as new, and desire to secure by Letters Patent, is—

The peculiar-formed concave cutters *g* on the lower ends of the edged uprights F with the racks H, side beam, C, standard L, rake N, bars E, and wheels B, the whole being constructed and arranged for operation conjointly as and for the purpose as herein described.

C. W. EMERSON.

Witnesses:

T. SQUIRES,

T. McCARTY.