

(No Model.)

J. H. SPENCER.  
LISTER CULTIVATOR.

No. 493,878.

Patented Mar. 21, 1893.

Fig. 1.

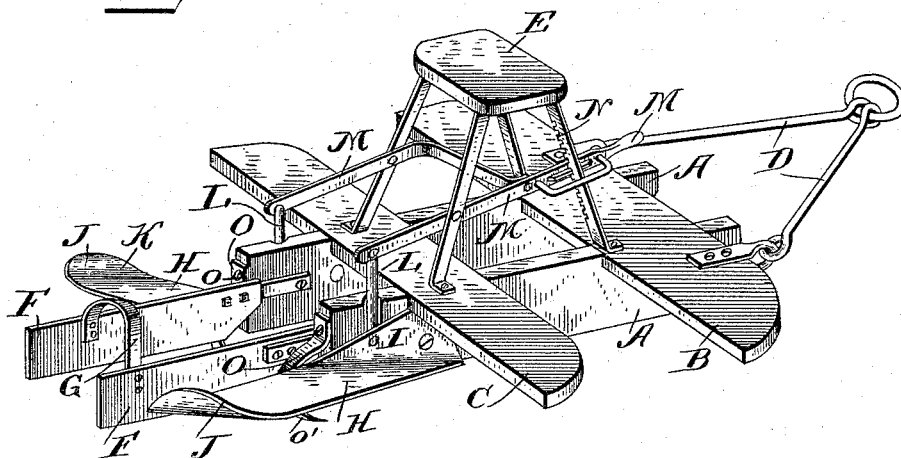


Fig. 3.

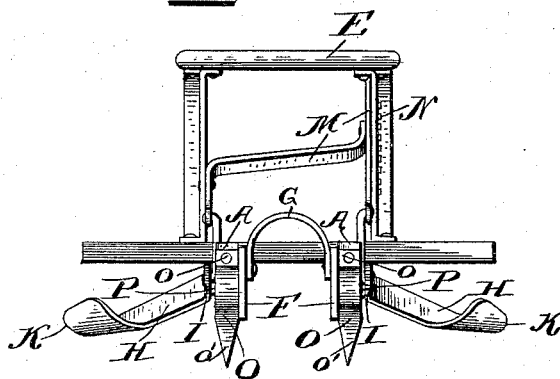
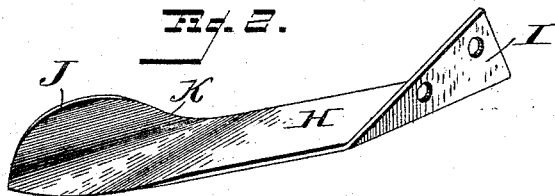


Fig. 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES H. SPENCER, OF BEAVER CROSSING, NEBRASKA.

## LISTER-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 493,878, dated March 21, 1893.

Application filed September 12, 1892. Serial No. 445,597. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. SPENCER, a citizen of the United States, residing at Beaver Crossing, in the county of Seward and State of Nebraska, have invented a new and useful Lister-Cultivator, of which the following is a specification.

This invention relates to lister cultivators.

The object of the invention is to produce a cultivator which shall be constructed of but few parts, and which will in a ready and efficient manner cultivate the soil and at the same time cut down, trim under and destroy the weeds, grass, &c., that may grow on the sides and tops of the ridges between which the corn is planted.

A further object is to provide mechanism for readily adjusting the cultivator blades, whereby to admit of their entering the ground to any desired depth.

The invention consists in the novel construction and combination of parts of a lister cultivator as will be hereinafter fully described and claimed.

In the accompanying drawings forming part of this specification, and in which letters of reference indicate corresponding parts: Figure 1 is a perspective view of the cultivator as it appears when ready for use. Fig. 2 is a like view of one of the cultivator-blades detached, showing its peculiar configuration. Fig. 3 is a rear elevation.

Referring to the drawings, A designates the runners which are rigidly held together at their front and rear ends by cross-pieces B and C respectively, to the former of which is suitably secured the draft-clevis D, which, being of any preferred construction, needs no further description. The cross-pieces also serve to support the seat E, as clearly shown in Fig. 1.

To the rear portion of each of the runners is secured a fender F, which may be either rigidly secured thereto, or have a pivotal connection, and in most instances the latter mode of attachment is preferred, inasmuch as it is desirable that these fenders may be turned up out of contact with the ground when the cultivator is being taken to or from the field. The fenders are by preference made lighter than the runners and in this instance are con-

structed of sheet iron or the like, their free ends being secured against undue spreading by means of a curved or arch-brace G, which will allow the fenders to yield to lateral strain.

To the outer side of the rear portion of each runner is pivotally secured my improved cultivator blade H, one end of each of which is bent at an angle, preferably at an obtuse angle, to the body portion of the blade to form an attaching-flange, L, through which passes a bolt for securing it to the runner. The free end of the blade is bent or curved upward to form a half-twisted flange J having a curved cutting-edge K which extends approximately parallel with the attaching-flange I. The curve of the flange is sufficient to turn the soil, which is separated by the blade, entirely over, so that in the operation of the cultivator the weeds, grass, &c., are not only cut or plowed up, but the soil in being turned upon itself exposes their roots, thus causing their destruction; and the fine soil is thrown down around the corn.

In order to regulate the pitch or angle of the blades, a rod L is secured to each, preferably to the attaching-flange, and the rods in turn move vertically in grooved recesses or guide-ways in the adjacent sides of the runners, are each secured to one end of a hand-lever M, the free end of which projects forward a sufficient distance to be readily operated by the driver, means may be employed for retaining the hand-lever in its adjusted position, and in this instance a rack-plate N is shown which acts in the usual manner to hold the lever.

In the operation of this cultivator, the blades are first adjusted to the desired angle by means of the hand-lever. As the cultivator is drawn over the ground, the straight portion of the blades first contacts with the ground, and detaches the grass, weeds, &c., in clods. In the continued movement of the cultivator, the detached clods are forced back upon the blades until they contact with the curved portion, when they are completely turned over and are discharged from the blades in regular rows or ridges on both sides of the cultivator. Should the roots of the weeds be very tenacious and fail to be severed by the straight edge of the blades, the

curved cutting edge will effectually sever them as soon as they are brought into contact therewith.

At the rear ends of the runners A A, I prefer to provide small cultivating blades, O, which may be formed by a curved plate having its upper end secured to the rear edge of the runner, as shown at *o*, and its lower end pointed and projecting below the plane of the under edge of the runners, as shown at *o'*. These plates may be braced by a strip or rod P, having one end secured to the runner A, and the other secured at about the central portion of the cultivator O. The cultivating blades O O will thus run directly behind the runners A A in the furrow on each side of the corn.

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

1. In a lister-cultivator, the combination, with the runners provided with guide-ways for the link-rods, of cultivator-blades pivot-

ally attached to the rear of said runners, link-rods attached to said cultivator-blades and working vertically in said guide-ways, and a hand-lever connected to said link-rods, substantially as and for the purpose set forth.

2. In a lister-cultivator, the combination, with the runners and frame-work of cultivator blades pivotally connected to the rear of said runners and having their outer ends upturned and curved to form cutting edges, link-rods to said blades and vertically movable in guide-ways on the runners, a hand lever connected to said link-rods and provided with a catch or pawl, and a rack-bar formed by one of the frame-supports for the seat.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES H. SPENCER.

Witnesses:

H. F. MOELLER,  
E. T. MAYHEW.