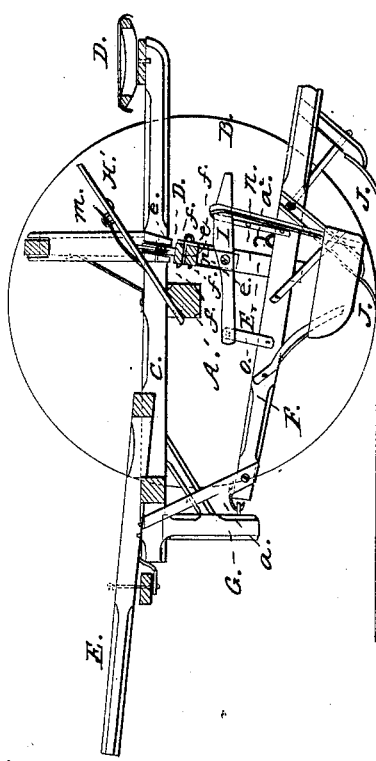


J. A. BARDEL.
Wheel-Cultivator.

No. 49 845.

Patented Sept. 12, 1865.

Fig. 1.



Witnesses:
McArdle
McDonald

Fig. 2.

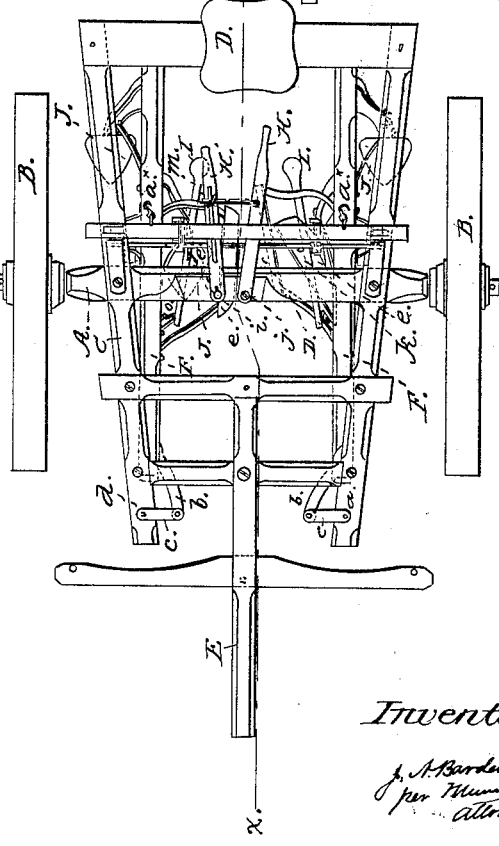
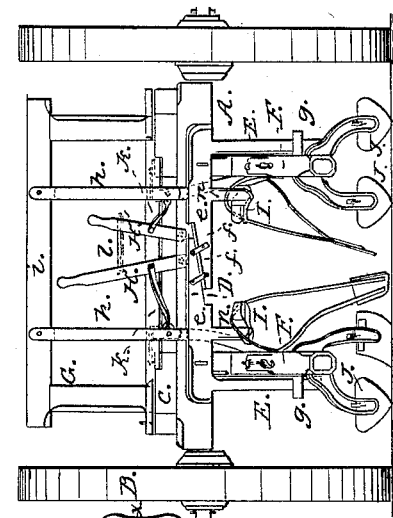


Fig. 3.



Inventor:
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UNITED STATES PATENT OFFICE.

JOHN ALBERT BARDEL, OF FREEPORT, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 49,845, dated September 12, 1865.

To all whom it may concern:

Be it known that I, JOHN ALBERT BARDEL, of Freeport, in the county of Stephenson and State of Illinois, have invented a new and Improved Cultivator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same; Fig. 3, a rear view of the same; Fig. 4, a detached outer side view of one of the plow-beams.

Similar letters of reference indicate like parts.

This invention relates to a new and improved cultivator of that class which are provided with laterally-adjustable shares or plows; and it consists in a novel arrangement of parts, as hereinafter shown and described, whereby it is believed that several advantages are obtained over other devices for the same purpose now in use.

A represents an axle, having a wheel, B, on each end of it; and C is a frame, which is securely bolted on the axle, the sides of the frame having a slightly-oblique position, so as to cause the former to be a little narrower at the front end than at the rear end, as shown in Fig. 2.

D is the driver's seat on the rear of frame C, and E the draft-pole attached to the front end of the frame.

F F represent two plow-beams, the front ends of which are connected by hook and staple, or other proper universal joints, *a*, to the lower ends of pendants G G at the front end of the frame C at each side. The front ends of the beams also have bars or rods *b* attached to them, which extend upward and forward from the beams, and are fitted to the inner ends of plates or bars *c*, the outer ends of which are secured to the front part of frame C by pivots *d*. (Shown in Fig. 2.) By this arrangement the plow-beams are allowed to move or work laterally or up and down in a

perfectly-free manner, while at the same time a firm connection of the plow-beams to the frame is obtained.

D represents a horizontal bar, which is composed of two parts, *e e*, connected together by links *f f*, (see Fig. 3,) to admit of said bar being extended or contracted. This bar D is provided with a pendant, E, at each end, and these pendants pass through guides *g* attached to the outer sides of the plow-beams, as shown in Fig. 3, and the bar D is suspended by links *h h* from the horizontal bar *i* of an upright frame, G, on the frame C, the links *h h* being allowed a free lateral swinging movement.

H H' are two levers, the front ends of which are secured by pivots *j* to the axle A, and these levers are connected by arms *k* to the links *h h*, and connected together by a notched bar, *l*, and a spring-catch, *m*. By this arrangement it will be seen that the driver from his seat D* may move the plow-beams F F either to the right or left, as may be required, in order that the plows may conform to the sinuosities of the rows of corn, the lever H being actuated in order to produce this result; and it will further be seen that by actuating the lever H', swinging it to or farther from lever H, the bar D may be expanded or contracted, lengthened or shortened, in order to adjust the plows and plow-beams nearer together or farther apart, so as to plow nearer to or farther from the corn, as required.

I I are two treadles attached to pendants *n n* which project from bar D. These treadles are connected at their front ends by links *o* with the plow-beams F F. By means of these treadles the plow-beams may be elevated and the plows raised up out of the ground whenever required. In order to hold the plows up out of the ground they are suspended by hooks *a** from the bar D.

For plowing corn, at first ordinary shovel-plows, J, may be used, two being applied to each beam, the inner ones plowing next to the corn and the outer ones plowing between the rows. For hilling corn, I employ scrapers K instead of the inner plows.

The plows are under the complete control of

the operator or driver, and the former may be adjusted with the greatest facility when the machine is not in motion.

I claim as new and desire to secure by Letters Patent—

1. The plow-beams F F, attached to the front part of the frame C by universal joints *a*, in combination with the laterally-swinging extension-bar D and levers H H', all arranged

to operate substantially as and for the purpose herein set forth.

2. The treadles I I, in combination with the plow-beams and extension-bar D, as and for the purpose specified.

JOHN ALBERT BARDEL.

Witnesses:

VALENTIN STOSKOPF,
LOUIS HAEBEL.