

E. IVES.
Sulky Cultivators.

No. 149,130.

Patented March 31, 1874.

Fig. 1.

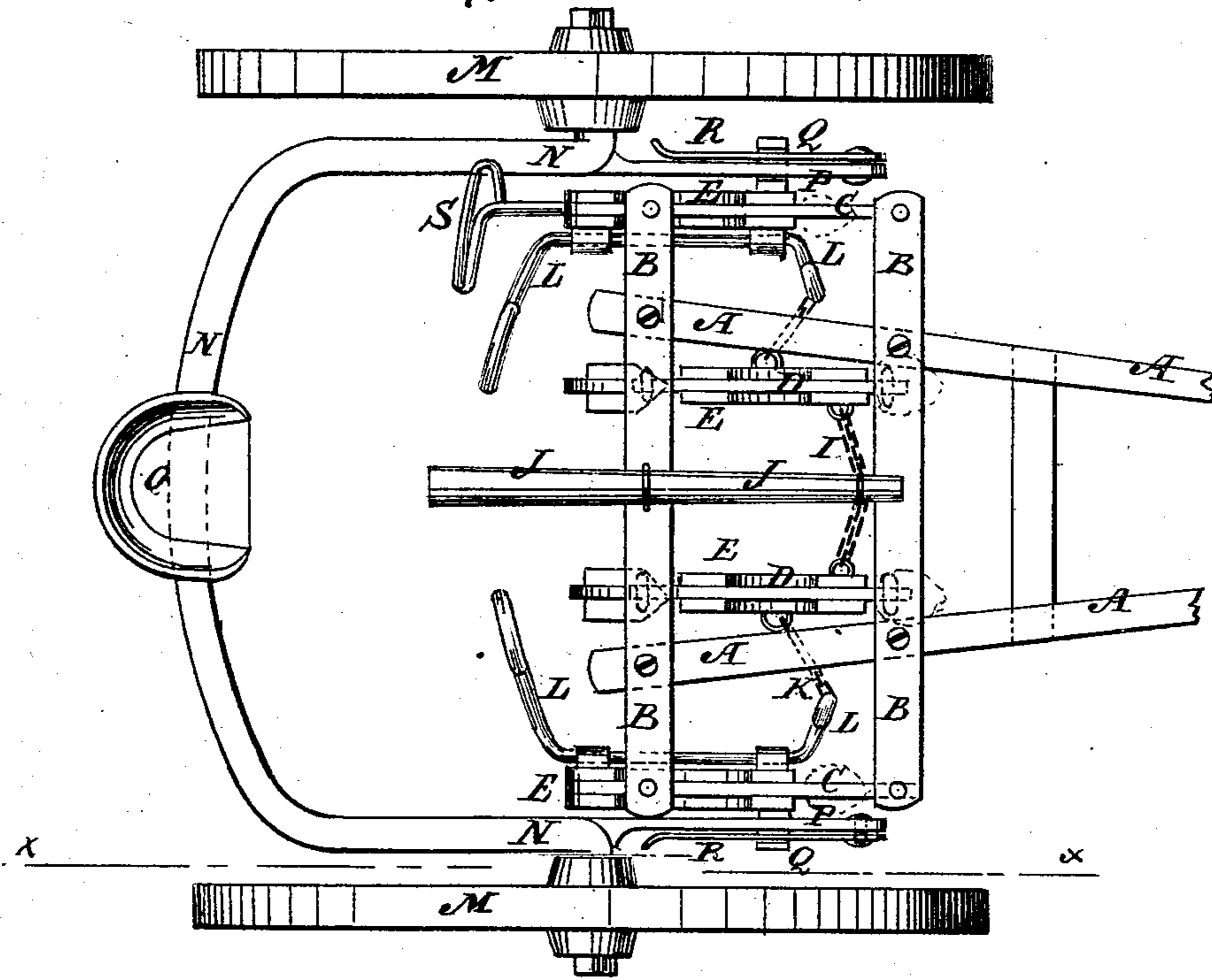
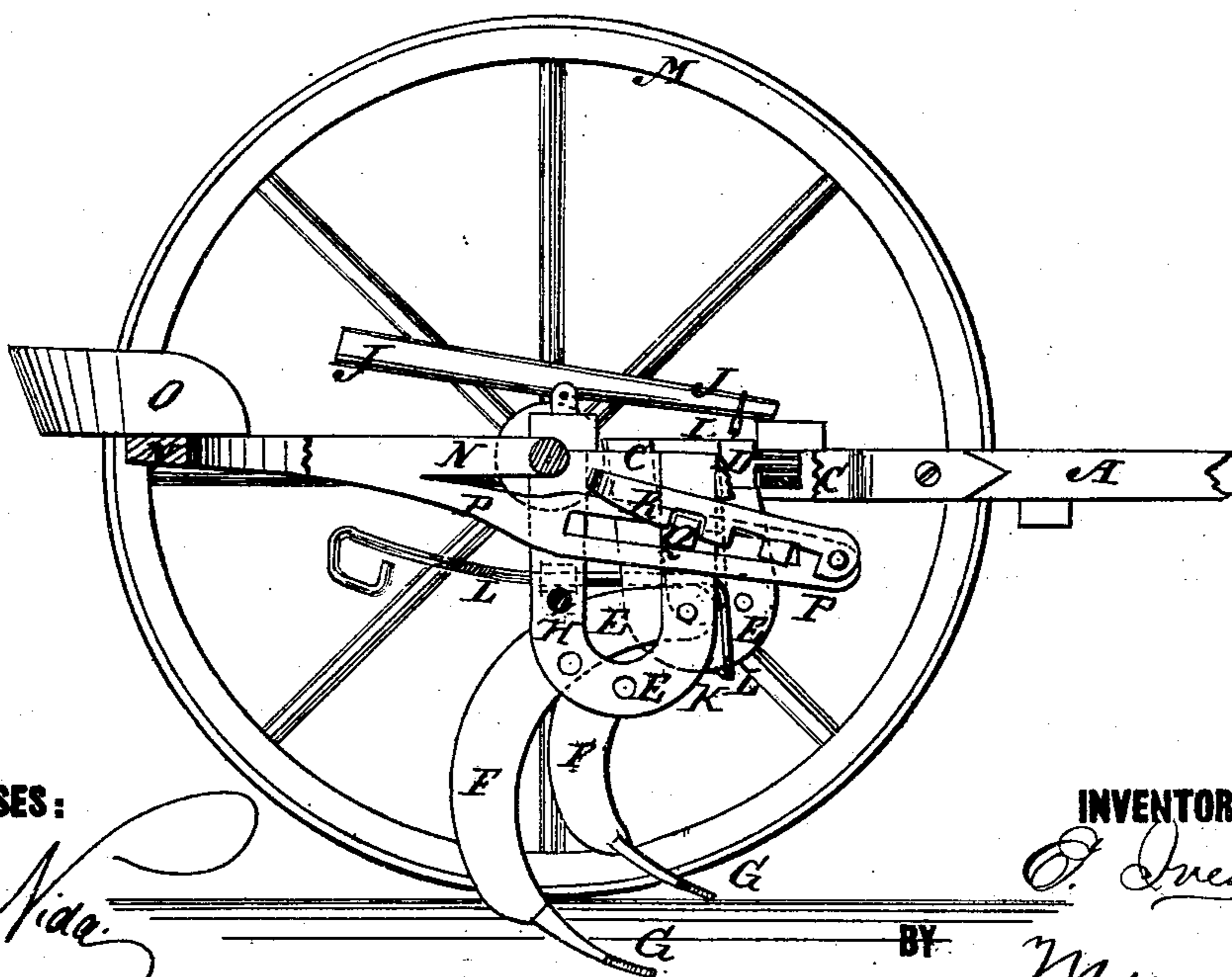


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EPHRAIM IVES, OF PLEASANT HILL, INDIANA.

IMPROVEMENT IN SULKY-CULTIVATORS.

Specification forming part of Letters Patent No. **149,130**, dated March 31, 1874; application filed January 17, 1874.

To all whom it may concern:

Be it known that I, EPHRAIM IVES, of Pleasant Hill, in the county of Montgomery and State of Indiana, have invented a new and useful Improvement in Sulky-Cultivator, of which the following is a specification:

Figure 1 is a top view of my improved machine. Fig. 2 is a side view of the same, partly in section, through the line *xx*, Fig. 1, and part being broken away to show the construction.

Similar letters of reference indicate corresponding parts.

The invention relates to an arrangement of means for adjusting the plows toward and from each other, and for locking a pivoted portion of the frame, as hereinafter described.

A is the tongue, which is made V-shaped, and to the rear part of which are attached two cross-bars, B, that form the frame of the cultivator. To the ends of the cross-bars B are securely attached two bars, C, the forward ends of which may be bent inward and secured to the parts of the tongue A, and the rear ends of which project a little in the rear of the rear cross-bar B, so that the two outer plows may be set to the rearward of the two inner plows. D are two bars, placed parallel with and at equal distances from the side bars C, and the ends of which are pivoted to bearings attached to the under sides of the bars B. E are four pairs of U-shaped hangers, the ends of each pair of which are riveted or bolted to one of the bars C D D C, so as to receive between them the shanks or standards F, to the lower ends of which the shovels G are attached. The upper ends of the standards F are pivoted to and between the forward arms of the U-shaped bars E by bolts or rivets. The rear parts of the standards F rest against wooden pins H, inserted in holes in the rear arms of the U-shaped hangers E, and which should be of such a strength as to hold the plows down to their work under ordinary circumstances, and which, should the plows strike a solid obstruction, will break and allow the plow to swing back to guard against breakage. Several holes are formed in the rear arms of the U-shaped hangers E, so that by adjusting the wooden pins H the plows may be adjusted at any desired pitch, and thus made

to work deeper or shallower in the ground, as may be required. The two inner pairs of U-shaped hangers E are connected with each other by a short chain, I, so that the outward movement of either of the inner plows will draw the other plow with it. With the middle part of the chain I is connected the forward end of a lever, J, which is pivoted to the rear cross-bar B, and its rear end projects into such a position that it may be conveniently reached and operated by the driver from his seat. By this arrangement, by operating the lever J, the two inner plows may be drawn inward, so as to work closer to the plants. To the outer sides of the inner pairs of U-shaped hangers E are attached the inner ends of two short chains or rods K, the outer ends of which are attached to the ends of the bent levers L, which are pivoted to the inner side of the outer pairs of U-shaped hangers E, and the rear ends of which project inward into such a position that they may be conveniently reached and operated by the driver with his feet. By this construction, the driver, by bearing down with his foot upon one or the other of the levers or treadles L, can move the inner pair of plows to one or the other side, as desired, and by bearing down with one foot, and at the same time operating the hand-lever J, he can move either of the inner plows inward. In this way the driver has complete control over his plows, so that he can guide them in plowing crooked rows, in avoiding irregular hills, and in plowing closer to or farther from the plants, as circumstances may require. M are the wheels, which revolve upon the journals of the axle N, which is curved to the rearward, and to its middle part is attached the driver's seat O. To the axle N, at the inner ends of its journals, are attached the rear ends of two bars, P, which project forward and are slotted longitudinally to receive the bolts Q, attached to the forward arms of the outer pairs of U-shaped hangers E. To the forward ends of the bars P are pivoted the ends of two lock-bars, R, which have a series of notches formed in their lower edges to receive and fit upon the heads of the bolts Q, to lock the bars P in any position into which they may be adjusted. By this construction, the wheels and axle may be adjusted forward or back, according to the weight of the driver,

so that his weight may balance the machine. To the rear arms of one or both the outer pairs of U-shaped hangers E is pivoted a catch, S, to catch upon the axle N, and support the plows when raised out of the ground, for convenience in turning and passing from place to place.

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

1. The combination, with the pivoted bars D, of the centrally-arranged lever J and connecting-chains I, for causing the plows F G

to approach each other, and the bent or crank foot-levers L and chains K, for causing the plows to incline outward, and thus widen the space between them, as shown and described.

2. The combination of the slotted bars P, the bolts Q, and the notched lock-bars R with the bent axle N and the outer U-shaped hangers E, substantially as herein shown and described.

EPHRAIM IVES.

Witnesses:

VINCENT WHITE,
THOS. C. GREEN.