

A. B. CASS.
Wheel-Cultivator.

No. 45,700.

Patented Jan. 3, 1865.

Fig. 1.

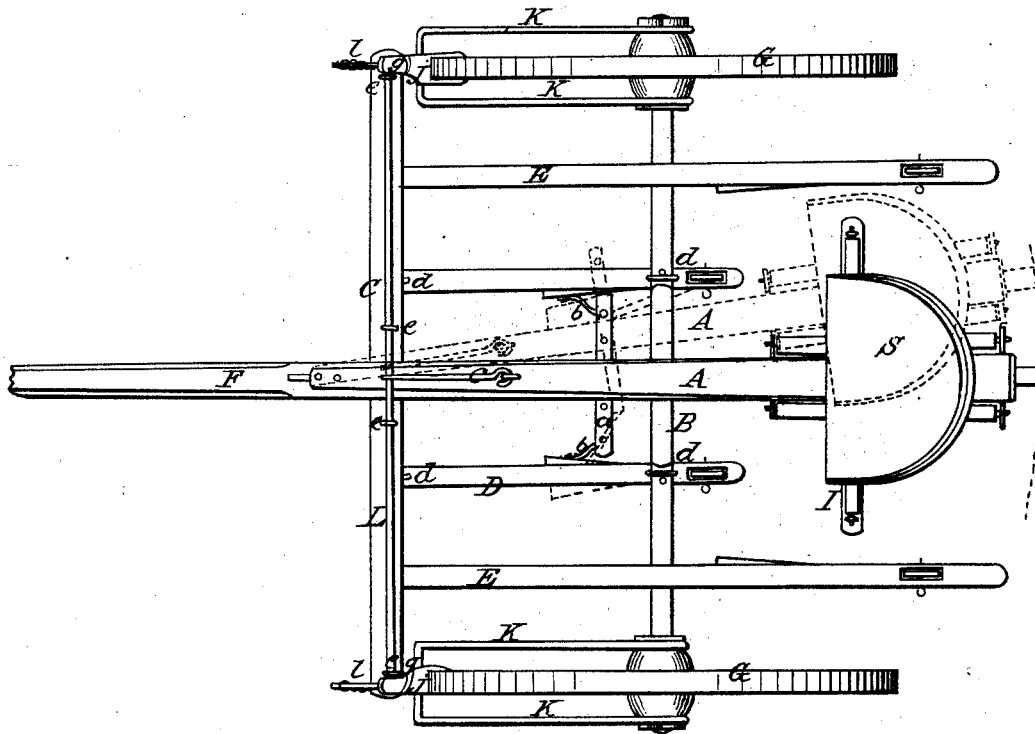
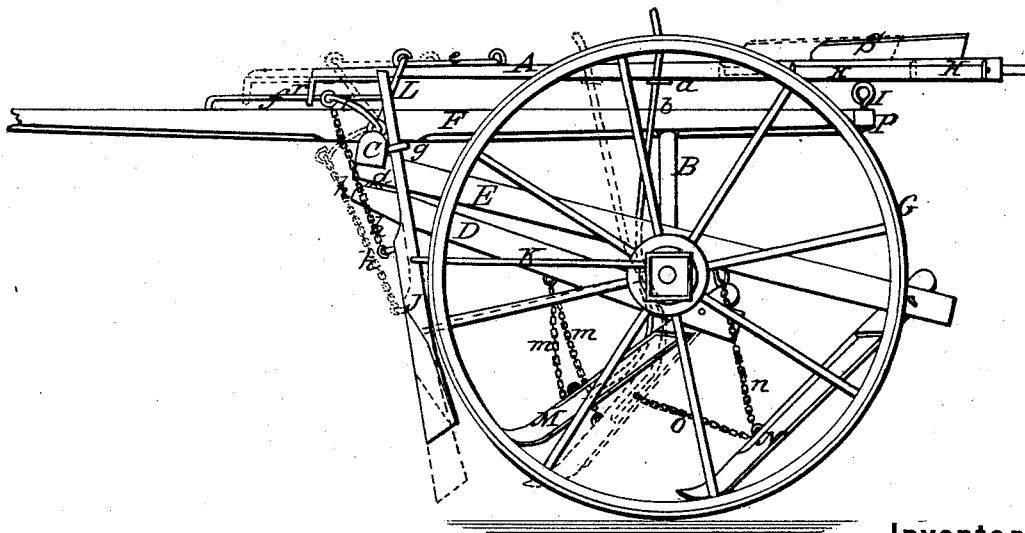


Fig. 2.



Witnesses:

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IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **45,700**, dated January 3, 1865.

To all whom it may concern:

Be it known that I, A. B. CASS, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Cultivators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

In said drawings, Figure 1 represents a plan or top view of my invention, and Fig. 2 a side elevation of the same.

Similar letters of reference in the different figures indicate corresponding parts of my invention.

The nature of my invention consists in a novel and useful device for adjusting the cultivator-plows laterally to adapt the same to the irregularities in the rows; and in a novel arrangement whereby the said plows are raised up from the ground or adjusted to run at different depths; and also in a novel mode of arranging a scraper in front of the wheels of a cultivator to clear away the obstructions in the way, and afford a smooth even track for the wheels to pass over.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity, reference being made to the aforesaid drawings.

F represents the draft-pole, which is firmly attached to the vertical bow in the axle B, and also to the front cross-bar, C.

D and E represent the beams to which the plows are attached, D being so suspended beneath the cross-bar C and the axle B by the staple-joints *d*, as to allow a reciprocating or rocking lateral movement to said beams, while the beams E are rigidly fastened to the cross-bar and upon the axle, as shown. By this simple and brace-like arrangement of the beams E with respect to the cross-bar C and axle B, I am enabled wholly to dispense with the ordinary frame-work of a cultivator, to which the horizontal plow-beams are connected usually by vertical posts, and produce a cheap, simple, and strong arrangement with no unnecessary parts, the cross-bar, axle, draft-pole, and plow-beams constituting the whole of the main features of the machine.

A represents an adjustable bar or lever, arranged longitudinally upon the draft-pole, connected thereto at the front end of said lever by means of the rod *f*, which passes through a hole in the lip *r*, attached to said lever, the ends of said rod or strap *f* being inserted or fastened to the draft-pole, as shown. By this mode of attachment the lever sliding upon the rod *f* is susceptible of a longitudinal movement forward or back for the purposes hereinafter mentioned.

The seat S is placed upon the rear end of the lever A, as shown.

Directly beneath the seat S the rollers H are arranged parallel to the lever A, and supported in bearings extending out laterally from said lever. These rollers are arranged a little below the lever A, so that the rear end of said lever is supported, not by resting upon the transverse roller I, but upon the rollers H, said rollers H resting upon the transverse roller, as described. Instead of two rollers H, one may be used, situated directly beneath the lever, or any number other than two, the principle being the same, whatever the number of rollers.

Across the rear end of the draft-pole F is fixed the cross beam or bar P, and upon each end of said cross-bar are placed suitable elevated bearings, in which are supported the ends or journals of the transverse roller I, before referred to, upon which the longitudinal rollers H rest.

a represents a flat bar of iron, arranged transversely with respect to the lever A, to which it is firmly fastened. Each arm or end of said bar is provided with a series of holes, as shown, through which the rods or levers *b* pass. These levers *b*, of which there are two, run down and are firmly attached to the plow-standards M, as is clearly seen from the dotted lines in Fig. 2. By means of the series of holes in the bar *a* the plows M may be gaged so as to run near to each other or farther apart, according as it may be desired to plow near or at a distance from the row.

L represents a rod lying upon the cross-bar C, to which it is attached by the staples *e*, which allow a rotating motion to said rod. This rod has a vertical bow at the center, which enables it to pass over the draft-pole and lever A, as shown, to which lever it is attached by the

rod *c*. At each end of the rod *L* it is provided with the lever-arms *l*, to the ends of which the chains *h* are affixed. These chains suspend the scrapers *J*, which are arranged before the wheels *G* for the purposes hereinbefore specified. The scrapers *J* are retained in position in front of the wheels by means of the arms *K*, which are attached to the machine by a ring surrounding the axle or the hub of the wheel, provided that when surrounding the hub it allows the free revolution of the wheel within it. The upper end of the scrapers *J* pass through the loops *g*, through which they have a sliding motion up and down.

M and *N* represent the plows or share-standards, and have a jointed connection with the beams *D* and *E*, which allows them to be raised and lowered, the chains *m* and *n* preventing them from dropping too low.

Having described my invention in respect to its construction, I will proceed to describe its operation.

The driver or operator, being seated upon the seat *S*, as the cultivator moves along, notices a bend or irregularity in the row, such as would cause one or more hills of corn to be uprooted unless the position of the plows were changed, by simply resting his feet upon the beams *E* and throwing himself one side, throws the rear end of the lever *A* to one side, as shown by the red lines in Fig. 1, which also carries the upper ends of the levers *b* to one side, and thereby moves the plows in the opposite direction, and in this manner the cultivator-plows are readily adapted to crooks and irregularities in the rows, the rollers *H* decreasing the friction and facilitating the operation.

In Fig. 2, the red lines show the position of the parts when the cultivator is in operation, and when the driver wishes to throw the plows out of the ground or adjust them at any de-

sired height he simply throws his weight backward and brings the lever *A*, moving or rolling upon the roller *I*, into the position shown by the dark lines in Fig. 2. This operation throws the upper ends of the levers *b* backward, and raises the plows *M*, as shown, and by means of the chain *o*, suitably attached, the plows *N* also. The same operation also, by means of the rod *L* and arms *l* and the chains *h*, raises the scrapers *J* up from the ground, sliding them up in the loops *g*. Thus the entire management and control of the machine is effected by an easy movement of the driver upon his seat, obviating the hand and foot levers in ordinary use, and producing the same results in a much cheaper and easier manner.

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

1. The combination of the adjustable lever *A*, bar *a*, levers *b*, and plows *M*, arranged and operating substantially as and for the purposes set forth and shown.
2. Attaching the scrapers *J* to the axle by one or more arms, *K*, substantially as and for the purposes shown and set forth.
3. The combination of the adjustable lever *A* with the rod *L*, provided with the arms *l*, or their equivalent, and the chains *h*, operating as and for the purposes shown and specified.
4. The employment of one or more rollers, *H*, to facilitate the lateral motion of the lever *A*, operating substantially as shown and described.
5. The employment of the roller *I*, in combination with the lever *A*, arranged and operating substantially as and for the purposes herein shown and specified.

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Witnesses:

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