

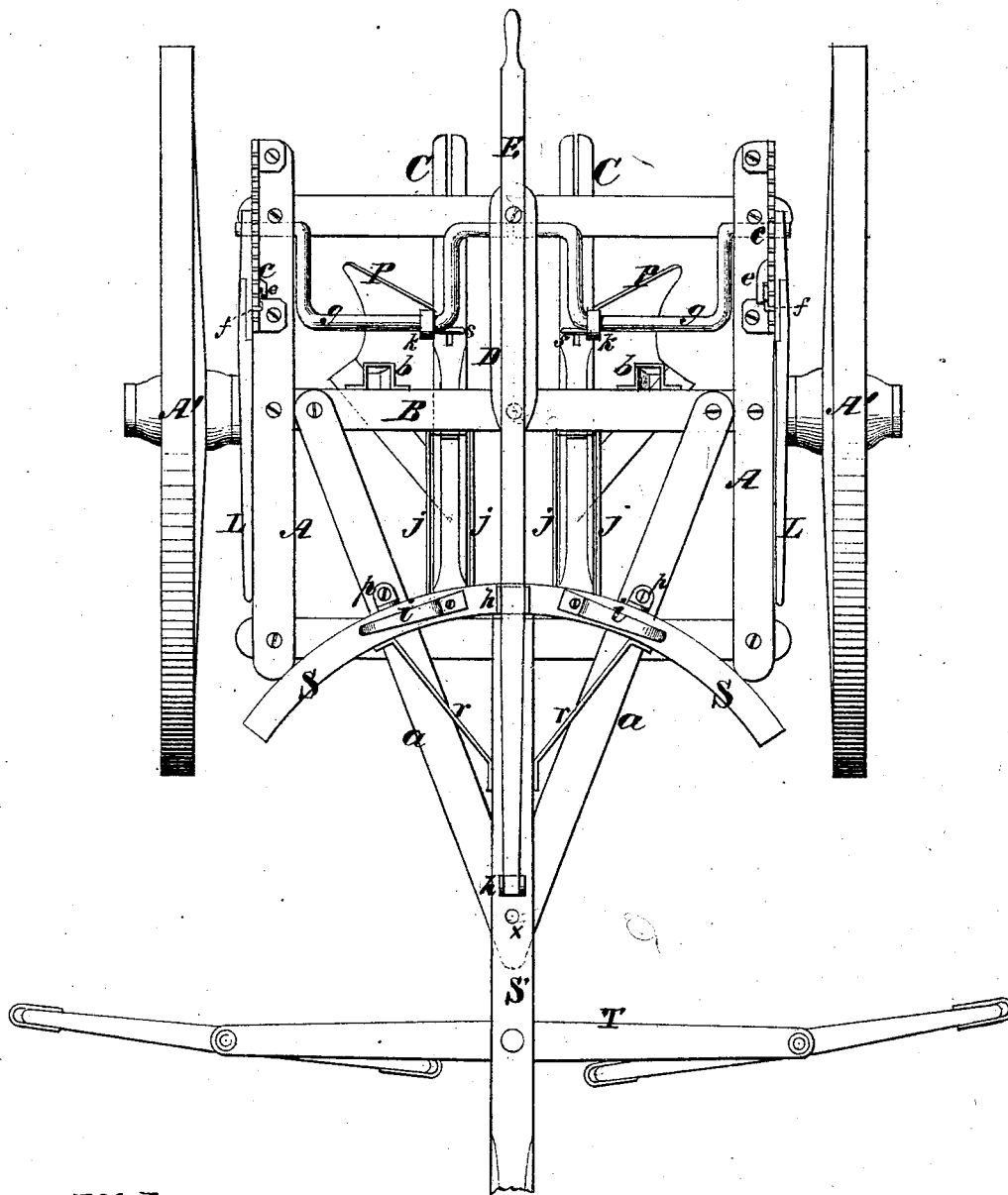
A. S. McDERMOTT.

Improvement in Cultivators.

No. 123,715.

Fig. 1

Patented Feb. 13, 1872.



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Fig 2

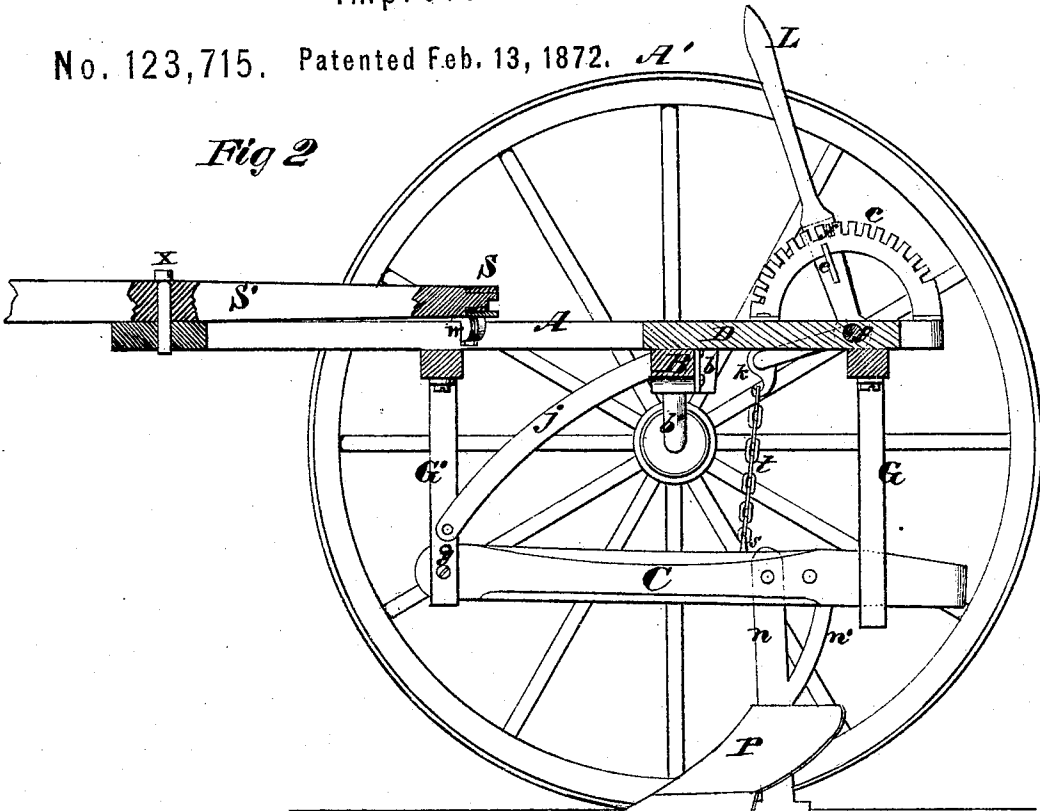
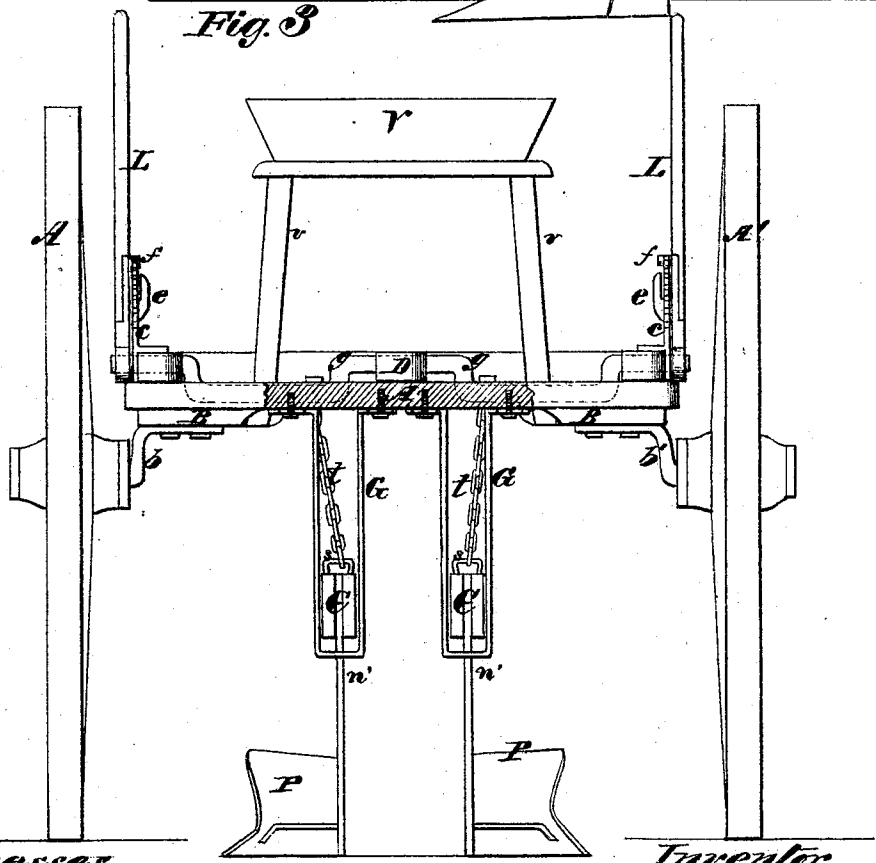


Fig 3



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IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 123,715, dated February 13, 1872.

To all whom it may concern:

Be it known that I, AUSTIN S. McDERMOTT, of Ogden, in the county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Wheel-Cultivators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is a plan view of the cultivator with its seat removed, and a lever applied to the draft-tongue for allowing a person walking behind the machine to properly guide it. Fig. 2, Plate 2, is a section taken longitudinally and vertically through the center of the machine. Fig. 3, Plate 2, is a rear elevation of the machine.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements which are applicable to wheel-cultivators.

To enable others skilled in the art to understand my invention I will describe its construction and operation.

In the accompanying drawing, A represents a rectangular carriage-frame, which is secured upon a transverse axle-tree, B, having short angular axles *b b*, on which the carriage-wheels *A' A'* are placed and turned freely. The draft-tongue *S'*, with its arc *S*, are supported upon and pivoted at *x* to the front united ends of two diagonal braces, which are secured to the axle B and also to the front transverse beam of frame A, and which form with said axle a triangle. These braces not only strengthen the frame A, but they afford a long extension in front of this frame for the pivotal-attachment *x* of the draft-pole. The draft-pole *S'* has an arc, *S*, secured centrally to its rear end, which is concentric to the axis of the pivot-pin *x*, and which is sustained upon two anti-friction rollers, *w*. By means of tongue-pieces *p p*, which are secured upon the braces *a a*, and which enter a groove made into the rear edge of the arc *S*, this arc, together with the rear end of the draft-pole *S'*, will be held down upon its roller *w* and allowed to vibrate about the pin *x*. The diagonal braces *r r* are used for more firmly securing the arc and draft-pole together. To the draft-pole, in front of the pivot *x*, a double-tree, *T*, is attached for hitching the

team to the machine. On opposite sides of the draft-pole, and equidistant therefrom, are two curved foot-rests, *i i*, on which are placed the feet of an attendant riding upon the machine and sitting upon a removable seat, *V*, whose standards, *v v*, are inserted into sockets *b b*, made fast to the rear side of the axle-tree B. The outer extremities of the foot-rests *i i* are curved upward so as to afford a purchase for the feet of the attendant, and enable him to move the frame of the machine either to the right or left without requiring the interposition of the hands. To the front and rear transverse beams of the the frame A stirrup-guides *G G'* are secured by screw-bolts, that pass through slots made through the upper out-turned ends of said guides. To the front guides *G'*, at *y*, the forward ends of plow-beams *C C* are pivoted, which beams extend back through the rear guide *G*, and are allowed free vertical vibrations at the same time they are prevented from lateral displacement by the said guides. The pivot-pin *y* can be removed at pleasure, and the front ends of the plow-beams raised and secured at higher points by inserting the pins through other holes made through the guides *G'*, thus regulating the pitch of the plows for any given depth which it is desired to run the plows. The plow-beams are suspended at points between the front and rear stirrups by means of chains *t t*, which are attached below to staples *s s* and above to hooked rings *k k*. These rings *k k* are applied loosely to bell-cranks *g g*, so that they may be adjusted laterally thereon, and also so that they may turn freely around them. The cranks are independent of one another, and have their outer bearings in the external longitudinal beams of frame A and their inner bearings in a longitudinal piece, *D*, which is secured in front to the rear transverse beam of frame A. To the outer extremities of the two independently-adjustable cranks hand-levers *L* are secured, by means of which either one of the cranks can be vibrated, and either one or both of the plows *P P* can be raised or lowered. For the purpose of holding either one or both of the plows at the required height, teeth *f* are applied to the levers *L L* and toothed segments *c* are applied to the frame A. The teeth *f f* are held between the teeth of segments *c c* by the inward lateral spring of their levers *L*, and the

hooks *ee* on these levers serve as guides therefor to keep them in proper relation to their toothed segments. Thus it will be seen that the attendant can raise either one or both of the plows at pleasure, and that the plows will be supported at whatever height they may be adjusted. To regulate the pitch of the plow-points each plow-standard *n* is pivoted at its upper end to its plow-beam *C*, and secured rigidly to this beam at the desired position by means of a rear segment-brace, *n'*, and a pin or bolt. The front guide *G'* of each plow-beam *C* is sustained against backward strain by means of inclined braces *j*, which are secured behind to the axle-tree *B* and in front to their guide, *G*, as shown clearly by Fig. 2. The front and rear-guides *G* *G'* and the braces *j* *j* are secured to the carriage-frame by means of bolts, which pass through transversely-oblong slots. This allows the plows to be adjusted further apart or nearer together, as circumstances require.

When it is desired to walk behind the machine I employ a long hand-lever, *E*, which extends back in rear of the frame *A*. This lever is secured to the draft-pole *S'* between

ears *h h*, so as virtually to form a removable rear extension of said pole. The object of this extension is to allow the attendant while walking to guide the plows between the rows. When the lever *E* is not in use it may be removed from the draft-pole, and when it is in use the seat *V* may be removed from the machine.

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

1. The loose turning and sliding collars *k k*, in combination with the independent cranks *g g*, chains *t t*, and independent laterally-adjustable cultivator-beams *C C*, all in the manner and for the purpose described.

2. The combination of the pivoted plow-beams *C C*, independently-adjustable and braced front-guides *G' G'*, independently-adjustable rear-guides *G G*, laterally-adjustable loose collars *k k*, chains *t t*, independent cranks *g g*, adjusting stop-levers *L f L f*, and toothed segments *c c*, all arranged substantially in the manner and for the purpose described.

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