

B. A. GRANT.
Wheel-Cultivator.

No. 51,306.

Patented Dec. 5, 1865.

Fig. 1.

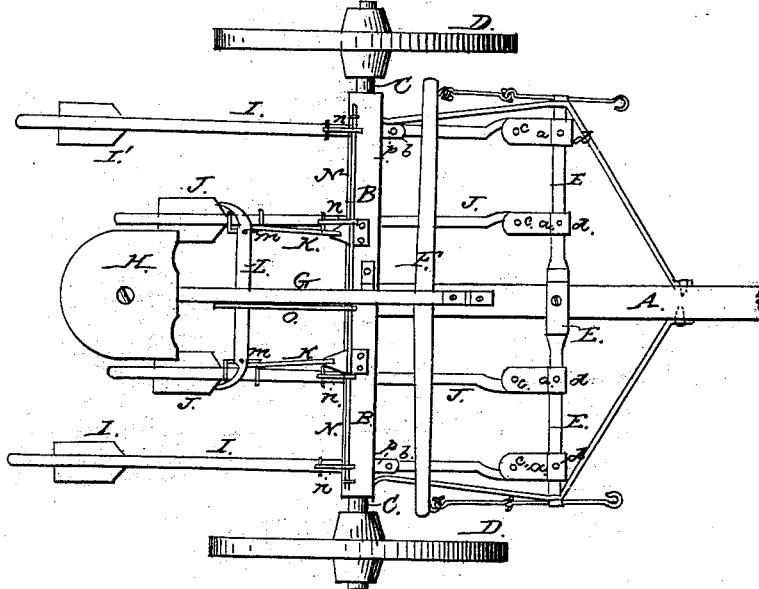
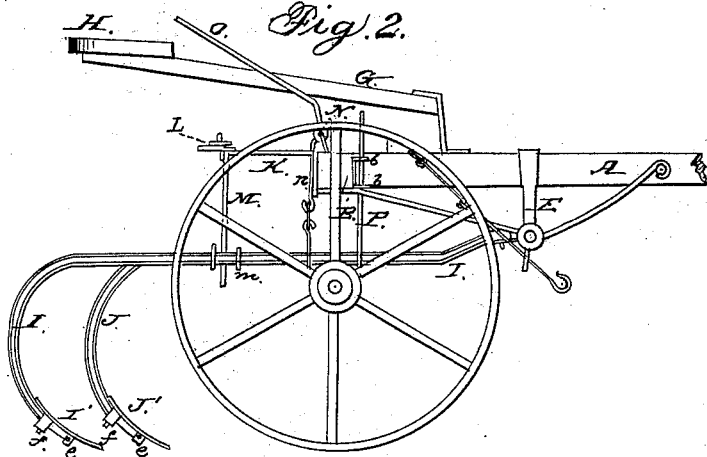


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

B. A. GRANT, OF MOUNT PLEASANT, IOWA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 51,306, dated December 5, 1865.

To all whom it may concern:

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

The nature of my said invention consists in the employment of curved elastic beams whereunto the plow-shares are attached, so as to allow the shares to yield when brought in contact with any obstruction, and thus avoid the breaking of the same; and also in a novel and convenient arrangement whereby the shares may be moved from side to side to conform to any crooks or irregularities in the rows, and raised up so as to clear the ground when it is desired to move the cultivator from field to field.

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 had to the aforesaid drawings, in which—

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 denotes the same parts of my invention.

A represents the draft-pole, which is rigidly fastened at its rear end to the axle B. To each end thereof is attached the vertical supports *c c*, whose lower ends are provided with horizontal spindles, upon which the wheels D revolve.

E represents the front cross-bar to which the plow-beams are attached, as shown and hereinafter described, which rests at the center upon the draft-pole A, being bent so as to form a yoke, and having its two ends considerably lower than the draft-pole. The plow-beams are made of curved steel rods, constructed as shown, so as to combine and form the standards to which the shares are attached.

The front end of the said plow-beams (marked

I and J) are pivoted at *e* to the clasps *a*, which surround the said front cross-bar, E. By this arrangement the beams have a free lateral movement when desired. The clasps *a* having a journal through which the round bar E passes allows a free vertical motion to the beams, while, by means of the set-screws *d*, the plow-beams may be adjusted at different distances apart upon the cross-bar.

K K represent two horizontal bars or arms, the front ends of which are so attached to the axle B that they have a swinging side motion about their point of attachment, and to the rear ends of which the cross-bar L is attached, as shown. From each end of L project downward the vertical bars M, which pass through loops *m* upon the inner beams, J, as shown. By this arrangement the driver upon the seat H, by placing his foot upon the curved ends of the cross-bar L, may move the inner plows from side to side so as to conform to any sinuosities in the rows, while at the same time the plows may be readily raised up free from the ground, or adjusted so as to run at different depths, as hereinafter described.

N represents a rotating rod extending across the machine, to which are fixed rigidly the arms *n*, which are suitably connected to the plow-beams, as shown. By the lever *o*, which is also attached to the rod N, the arms *n* may be thrown up to a horizontal position, thereby raising the plows, the loops *m* sliding upon the rods M, the attachment of the arms *n* to the plow-beams being adjustable or movable thereon.

P P represent two rods attached to the outer plow-beams, and, passing up through the supports *b b*, as shown, keep these said beams in position so far as lateral movements are concerned, and at the same time allow them to be raised up when required.

The shares are attached to the beams in such a manner as to be adjusted at different degrees of inclination, being pivoted at *e* and adjusted by a set-screw or its equivalent at *f*.

This cultivator is almost wholly made of iron and steel, the draft-pole, axle, and seat-support being of wood.

Having described my invention, I will now specify what I claim and desire to secure by Letters Patent:

1. The combination and arrangement of the plow-beams J, the arms K, the cross-bar L, vertical rods M, and loops *m*, operating as and for the purposes specified.

2. The combination of the plow-beams I J,

clasps *a*, arms K, cross-bar L, uprights M, loops *m*, uprights P, rod N, and arms *n*, all arranged and operating as and for the purposes specified.

B. A. GRANT.

Witnesses:

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J. S. CRAIG.