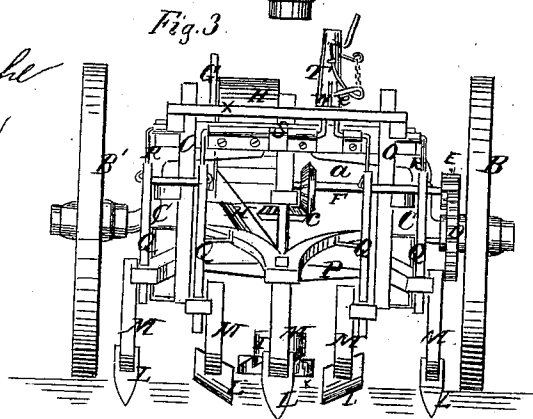
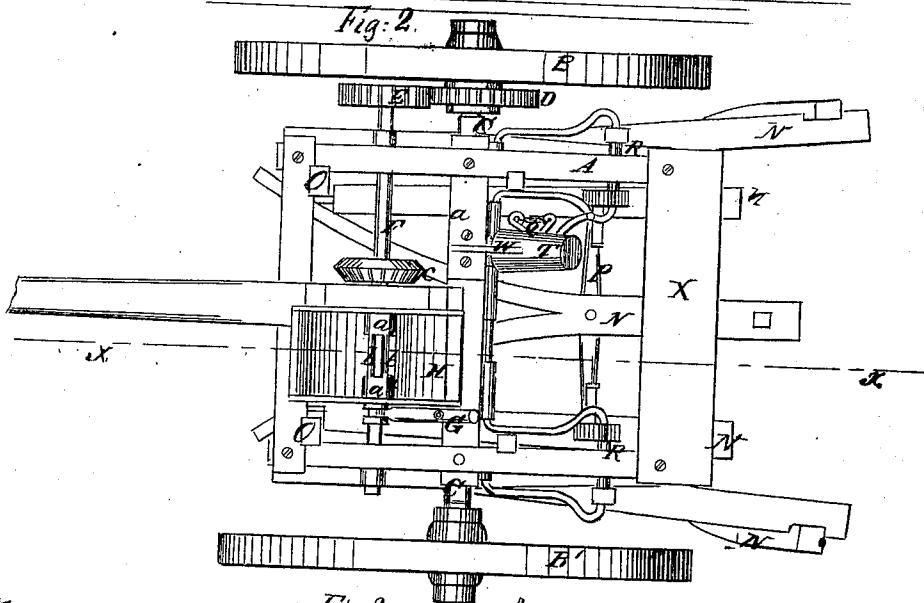
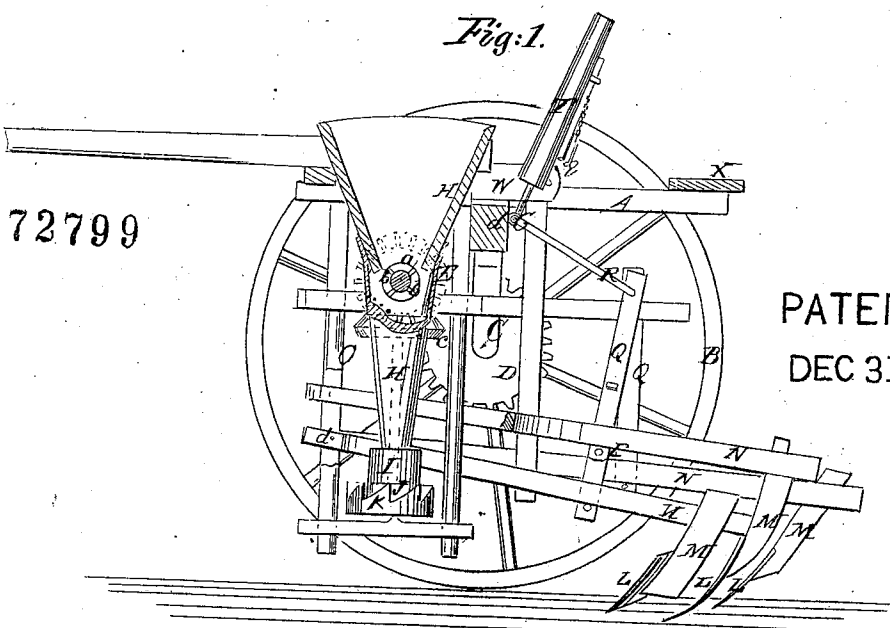


Castle Churchill, Seeding Machine.



Witnesses
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United States Patent Office.

CASTLE CHURCHILL, OF NEW HARTFORD, IOWA.

Letters Patent No. 72,799, dated December 31, 1887.

IMPROVEMENT IN COMBINED CULTIVATOR AND SEEDING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CASTLE CHURCHILL, of New Hartford, in the county of Butler, and State of Iowa, have invented a new and improved Combined Cultivator and Seeding-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to a new and improved cultivator and seeding-machine combined; and consists in a novel construction and arrangement of parts, hereinafter fully shown and described, whereby several advantages are obtained over the ordinary implements of the kind in use. In the accompanying sheet of drawings—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, fig. 2.

Figure 2, a plan or top view of the same.

Figure 3, a rear elevation of the same.

Similar letters of reference indicate like parts.

A represents the main frame of the machine, which is mounted on two wheels, B B', the latter being fitted on axles, C C, which are attached to a cross-bar, *a'*, of the frame A. On the inner part of the hub of the wheel B there is a toothed wheel, D, into which a pinion, E, on a shaft, F, gears, the latter having the seed-distributing device placed upon it. This seed-distributing device is composed of two heads, *a a**, one of which, *a*, is firmly keyed on the shaft F, and the other, *a**, is allowed to slide freely thereon, and is moved or adjusted by a lever, G, which extends upward by the side of the hopper H. Between the two heads *a a** there are placed radial metal plates, *b*, which are secured, at one end, in the head *a*, the opposite ends being fitted loosely in radial slots in the head *a**. These plates *b* form chambers to receive the seed, and said chambers may be expanded or contracted, as desired, by moving the lever G, and consequently the head *a**. This seed-distributing device is rotated with shaft F, which receives its motion by the gearing described, from the hub of the wheel B, as the machine is drawn along. The seed is discharged from the hopper H into an inclined trough, H', which conveys it into a cylindrical hopper, I, the latter being placed on the lower part of an upright shaft, J, which has a wheel, K, on its lower end, underneath hopper I, said wheel having a corrugated or notched upper surface. The shaft J is rotated by means of gears *c*, from the shaft F, and the wheel K serves as a scatterer, and insures the seed being sown broadcast upon the ground. L represents cultivator-teeth, which are attached to standards M, the latter being secured to beams N, the front ends of which are connected by pivot-bolts, *d*, to pendent bars, O O, at the front part of frame A. There are five beams, N, represented in the drawings, and two are attached to each pendent bar O, a central beam being forked at its front part, and pivoted to the pendent bars O O. To this central beam there is attached a cross-bar, P, the ends of which rest upon the innermost beams N. The two beams at each side of the machine, which are connected by the same pivot-bolt to the pendent bars O, have upright bars, Q, attached to them, one to each, and the upper ends of these bars are attached to cranks R R, on a shaft, S, the bearings of which are at the rear side of the cross-bar *a'*. The shaft S has an upright lever, T, attached to it, which lever is provided with a catch, *e*, to engage with holes in a plate, W, on the cross-bar *a'* to hold the lever, and consequently the cultivator teeth L, so that the latter may penetrate into the earth a greater or less distance, or held upward, out of the ground entirely, when desired. The central beam N is raised with the others, in consequence of the cross-bar P of the former resting upon the latter. Any desired number of cultivator-teeth may be used, as well as a plurality of scattering-wheels. The centre-beam, with its cultivator-tooth, will be only used when the seeding-attachment is applied, it being removed when the device is used as a cultivator. The driver's seat, X, is placed on the rear part of the frame A, and it is designed that one end of the seat be temporarily secured by a suitable catch or fastening, which will admit of said end being released, to allow the driver to descend with facility, whenever necessary.

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

The seed-distributing device, composed of the plates *b*, fitted between the fixed and the movable heads *a a** on shaft F, in combination with the hopper I and the scattering-wheel K, on shaft J, and the spout or trough H', all arranged for joint operation, substantially in the manner as and for the purpose set forth.

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