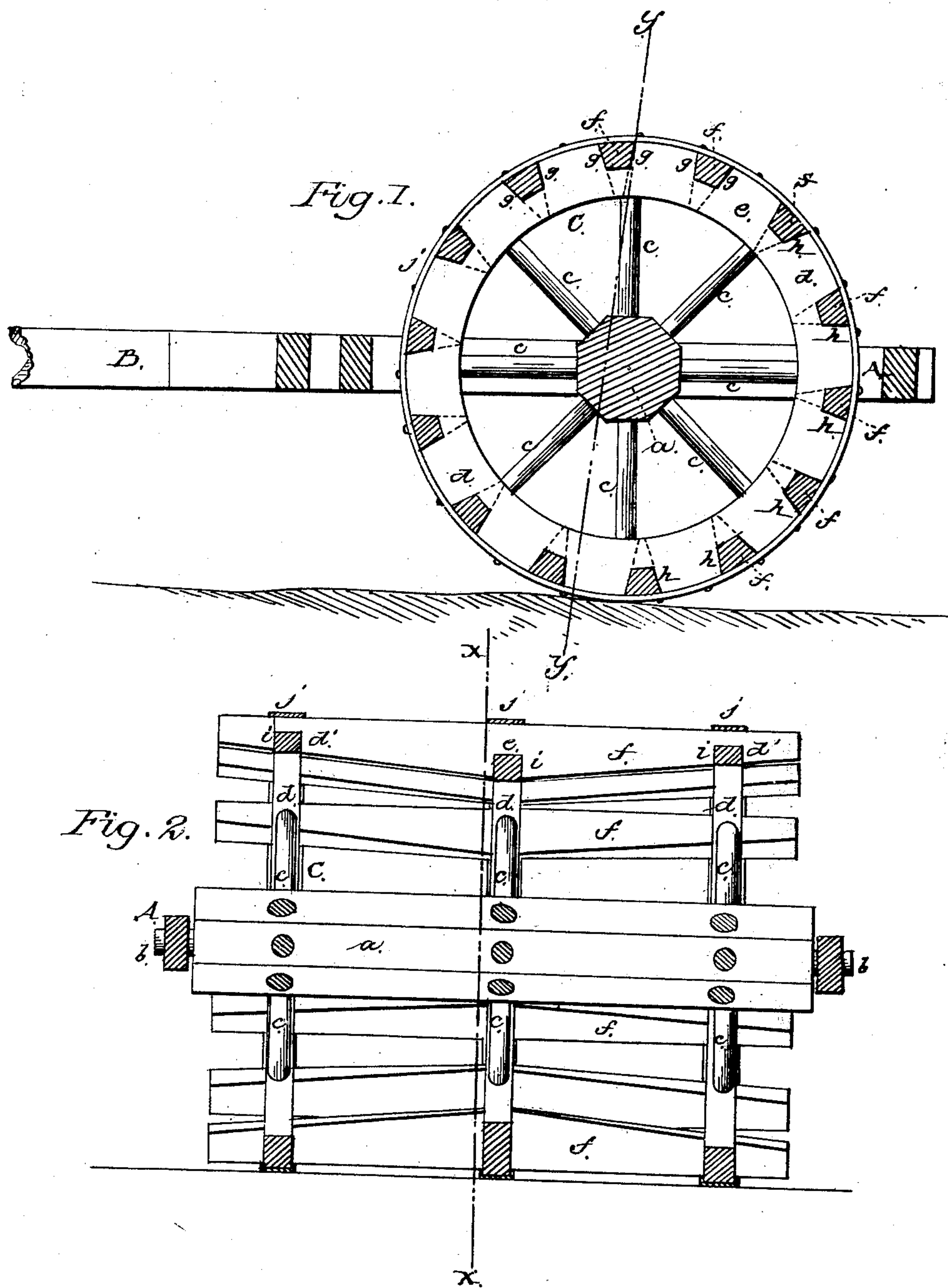


E. B. WAY.

Land-Roller.

No. 23,415.

Patented Mar. 29, 1859.



Witnesses:

Geo. W. Burke  
J. H. Buffington

Inventor:

E. B. Way



# UNITED STATES PATENT OFFICE.

E. B. WAY, OF JERSEYVILLE, ILLINOIS.

## IMPROVEMENT IN CLOD-CRUSHERS.

Specification forming part of Letters Patent No. 23,415, dated March 29, 1859.

*To all whom it may concern:*

Be it known that I, E. B. WAY, of Jerseyville, in the county of Jersey and State of Illinois, have invented a new and Improved Implement or Device for Crushing Clods and Pulverizing the Soil; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a transverse section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a longitudinal section of same, taken in the line *y y*, Fig. 1.

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

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, to the front end of which a draft-pole, B, is attached, and within this frame the cylinder of slats C is placed, the axis of the cylinder being at right angles with the draft-pole, and the cylinder allowed to turn freely within the frame. The frame A is constructed of wood and may be of any suitable dimensions. The axis or shaft *a* of the cylinder C is of wood, provided with a journal, *b*, at each end, the journals being fitted in proper bearings in the frame. The shaft is of polygonal form, and has a series of radial arms or spokes, *c*, fitted in it, one series being at the center and one near each end, as shown clearly in Fig. 2. The arms *c* may be of cylindrical form, having tenons on their inner ends to fit in mortises in the shaft *a*. The outer ends of the arms may also have tenons formed on them, said tenons being fitted in felloes *d*, which form rims for the arms. It will be seen that there are three rims, *d' d' e*, and by referring to Fig. 2 it will be seen that the rims *d' d'*, near the ends of the shaft, are not so deep as the center one, *e*.

To the rims *d' d' e* slats *f* are attached. These slats are all parallel with each other, and the shaft *a* may be formed of any hard wood. The slats are nearly equal in length to the shaft *a*, and they have oblique sides, *g*—that is to say, they are transversely of taper form, as shown clearly in Fig. 1. The slats are “let into” the rims *d' d' e*, the rims having their peripheries recessed, as shown at *h*, to receive the slats, which are also notched or recessed at the points where they fit into

the rims, as shown at *i*, in order that the outer sides or treads of the slats will be flush with the peripheries of the rims. The slats and rims are bound with iron hoops *j*, which may be shrunk on the cylinder and then secured by bolts.

It has been previously mentioned that the central rim, *e*, is of greater depth than the outer ones, *d' d'*. The object of this difference in the depth of the rims is to permit the slats *f* to be increased in depth gradually from their ends to their centers, as shown clearly in Fig. 2, and thereby insure a requisite degree of strength and stiffness.

The slats *f* may be placed at any suitable distance apart, but sufficient space should be allowed to enable the slats to act efficiently on the clods.

The operation will be readily seen. As the implement is drawn along, the slats *f* bear upon the clods and break or crush them, the broken pieces in a majority of cases passing within the cylinder between the slats and raised to some extent by its rotation, the raising of the crushed clods being favored by the V-shaped recesses between the slats, said form of recess being due to the oblique sides of the slats. The crushed clods, when they reach a certain height, fall of course from the recesses and within the cylinder on the inner sides of the slats below, and the parts of the clod are again divided by the fall and pass out pulverized from the cylinder. If the ground be very dry, the slats *f* will crush the clods and pulverize them by their weight only, and the pulverized clods will not adhere between the slats; but in case the ground be slightly moist it will be sufficiently adhesive to lodge between the slats, as previously described. The implement therefore is efficient in either case.

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

The employment of the oblique-sided double-tapered slats *f*, in combination with rims *d' d' e*, so that the clods that wedge between the slats will be carried up and then dropped and broken within the wheel, as herein shown and described.

E. B. WAY.

Witnesses:

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