

(No Model.)

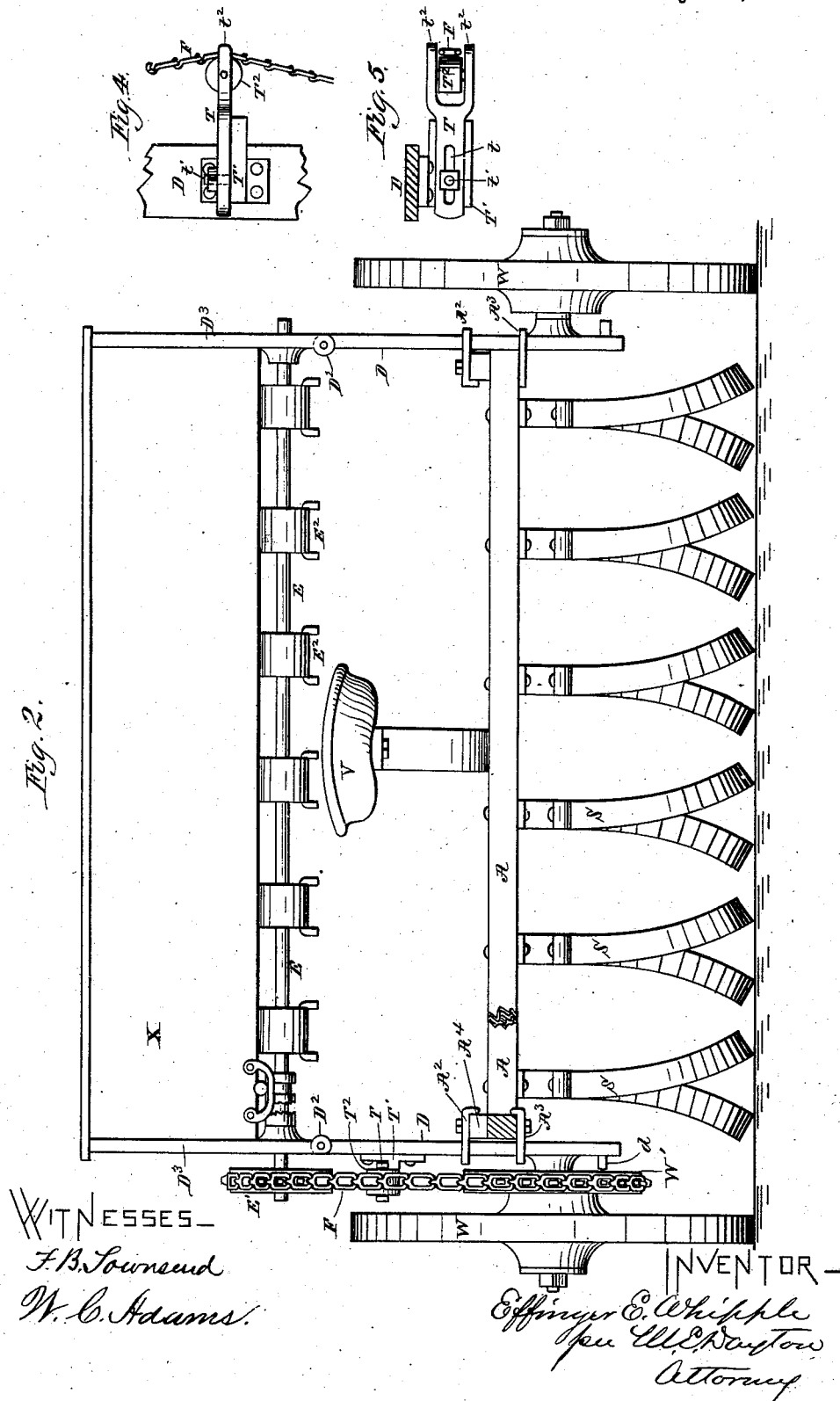
2 Sheets—Sheet 2.

E. E. WHIPPLE.

COMBINED SEEDER AND CULTIVATOR.

No. 260,814.

Patented July 11, 1882.



UNITED STATES PATENT OFFICE.

EFFINGER E. WHIPPLE, OF GRAND RAPIDS, MICHIGAN.

COMBINED SEEDER AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 260,814, dated July 11, 1882.

Application filed June 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, EFFINGER E. WHIPPLE, of Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Combined Seeder and Cultivator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates, first, to the mode of connecting the seed-box in a combined seeder and cultivator, and, second, to the lever by which the cultivator-frame is raised and lowered; and it consists in the several devices hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective fragmentary view of a combined cultivator and seeder, showing features of my invention. Fig. 2 is a rear elevation of the combined implement. Figs. 3, 4, and 5 are detail views.

The same letter indicates the same part in the several figures of the drawings.

A is a rectangular horizontal frame, having tooth-beams B secured to its transverse parts by means of the strong flat bent springs C. A tongue or other draft device (not shown) is connected in the usual manner to the said frame, and the machine in use is drawn in the direction indicated by the arrangement of the driver's seat V. The teeth S (here shown of a peculiar curved and twisted form, but which for the purposes of this invention may be of any desired construction) are secured to the beams B, one set being therefore drawn from the front cross-piece of the frame A and another set from the rear cross-piece of said frame.

D D are vertical bars, preferably of iron, having wheel-spindles D', Fig. 1, formed or secured thereon to afford attachment for the supporting-wheels W. The frame A is adjustably connected with said bars D by means of the hooked plates A² A³, fastened to the end pieces of the frame A and arranged to embrace the edges of said bars, as plainly shown in Fig. 1. To separate these plates A² and A³ more widely the piece A⁴, of wood, is applied to the upper surface of the end frame-piece,

and the plates and the intervening parts are all firmly bolted together.

X is a seed-box of any approved form, having seed-spouts, the attachments E of which only are here shown. The valves of said box are operated by the shaft E, arranged longitudinally of and beneath said box. The seed-box is provided at each end with a casting, D³, in which the valve-shaft E has bearing, and which is hinged to the top of the bar D at D². The seed-box is thus supported from these uprights, or ultimately from the wheels W, and is therefore maintained at a uniform or constant distance from the ground, whatever the relative elevation of the frame A. The frame A is raised and lowered with reference to the wheels and said box by means of any suitable lever or levers and catches or fastenings. I have here shown a novel construction in the lever L, which consists of a broad flat spring-plate pivoted at L' to the end piece of the frame, near its rear end, and in reach of the driver occupying the seat V. Said lever is curved and provided with the slot l at its lower end to engage, as shown in Fig. 1, with the pin d on the bar D. Arranged with reference to the pivot L' is a rack, R, having deep and nearly-vertical walled notches in its curved margin, with which a pin, l', on the lever L may engage. Being of spring metal, the lever may bend outward above its pivotal point to disengage the said pin l' from the rack-notches, and while thus outwardly bent it may also be swayed to lift and lower the frame on the adjacent bar D. A lifting-lever is placed at each end of the frame A.

It is obvious that in raising or lowering the frame one end at a time upon the uprights D, attached to the seed-box X, as described, the hinges D² are essential, for in the absence of such hinges the guide-plates A² A³ would bind upon said bars. In the hinged construction of these parts, as shown, on the other hand, said guides may run closely upon the bars D, and thus, as I intend, the frame A may form a firm but readily-adjustable axle connecting the wheels W.

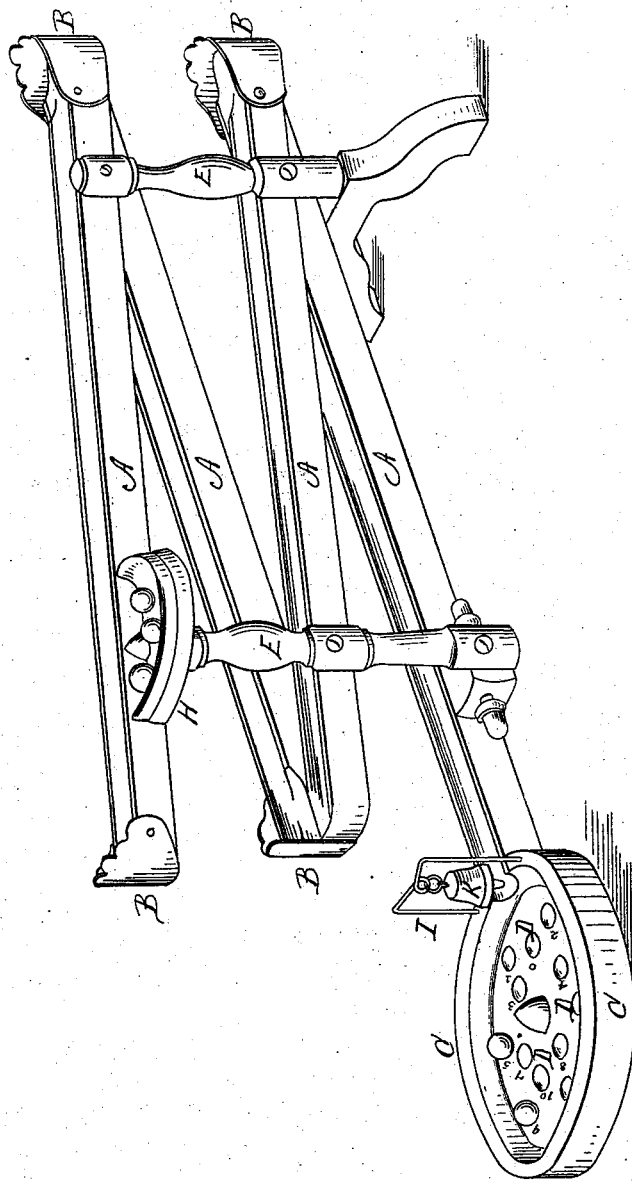
The shaft E is driven through the medium of a sprocket-wheel, W', a similar wheel, E', on the shaft E, and the sprocket-chain F, connecting said wheels.

(No Model.)

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RAILWAY GAME APPARATUS.

No. 260,815.

Patented July 11, 1882.



WITNESSES

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