(No Model.) 2 Sheets—Sheet 1.

O. E. THOMPSON.

ROOT CUTTER.

No. 529,219. Patented Nov. 13, 1894.

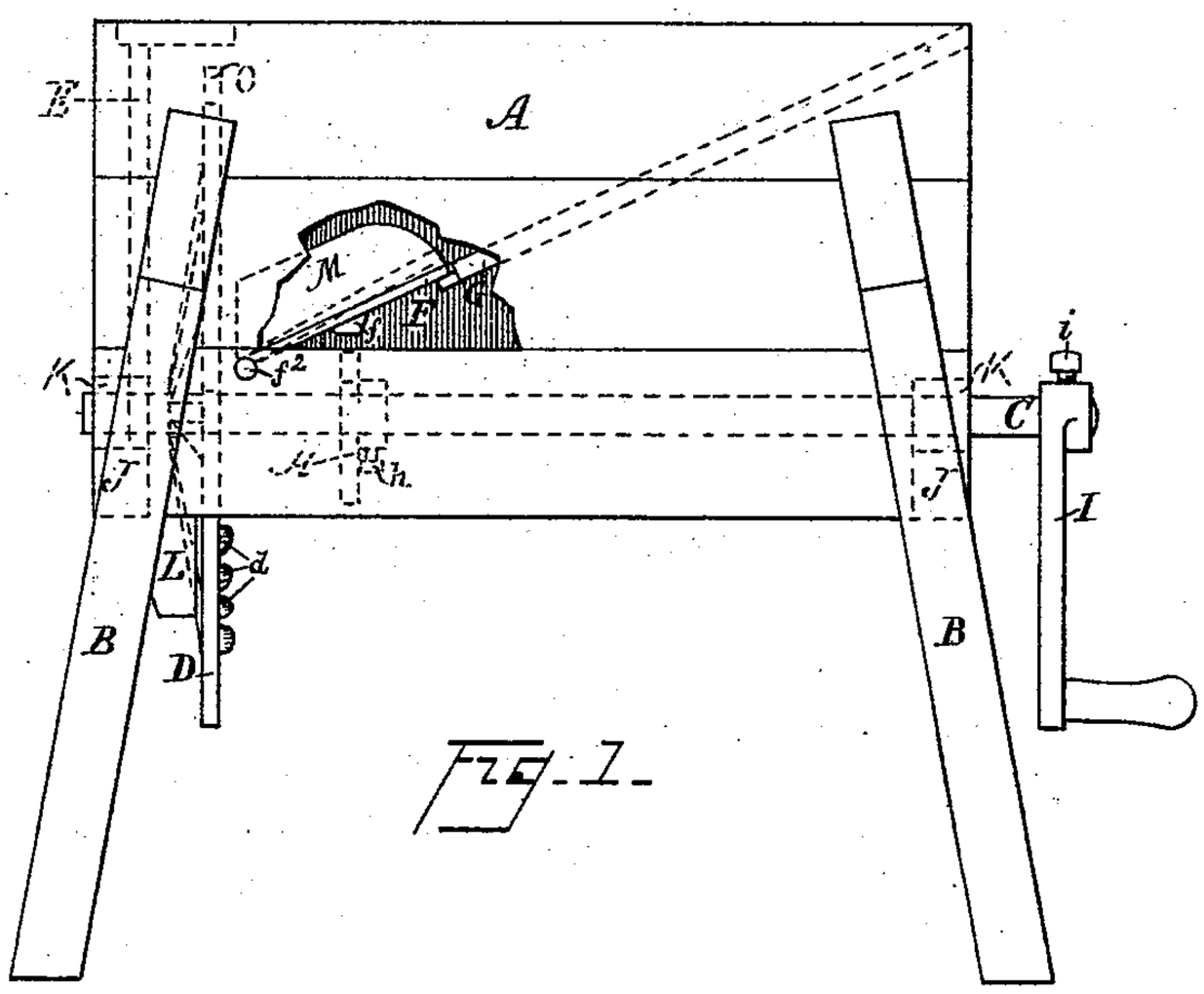

Fig. 1.

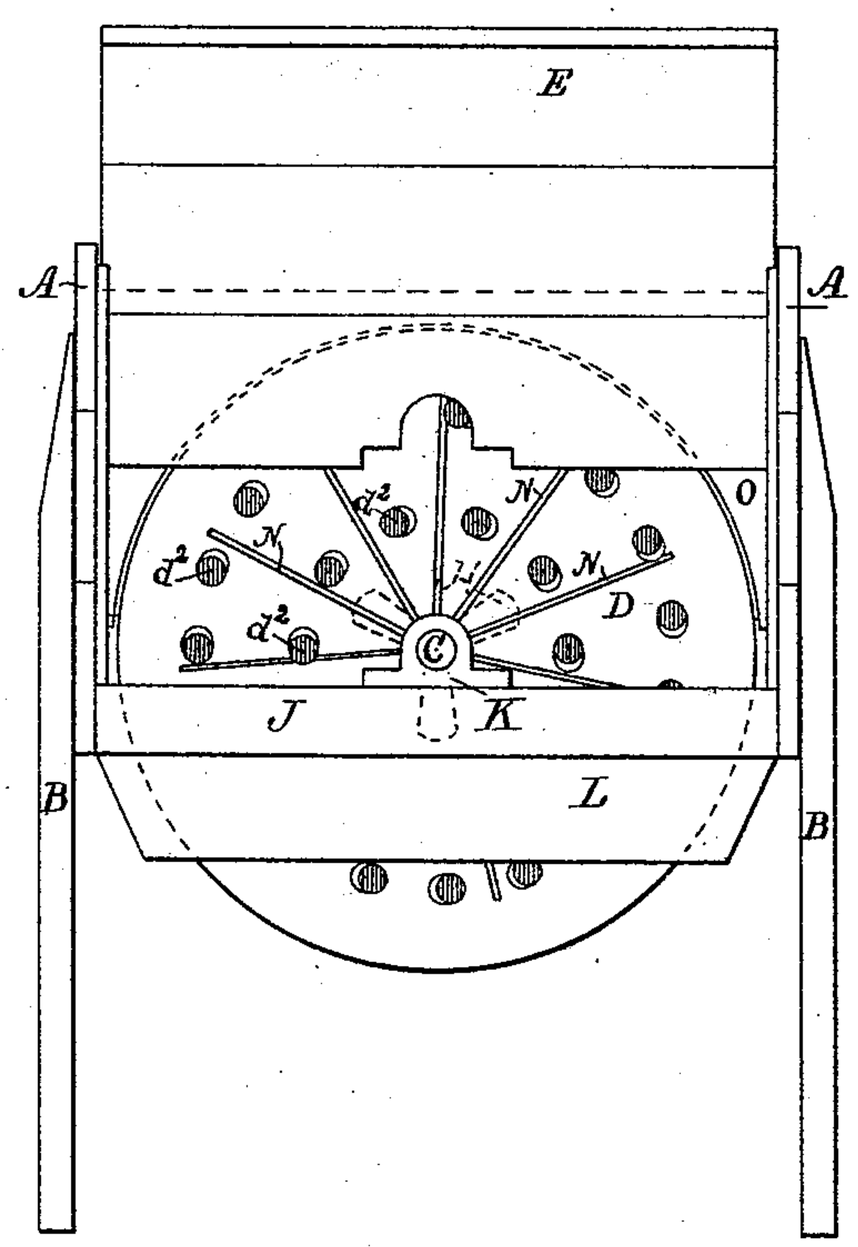

Fig. 2.

Witnesses
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(No Model.) 2 Sheets—Sheet 2.

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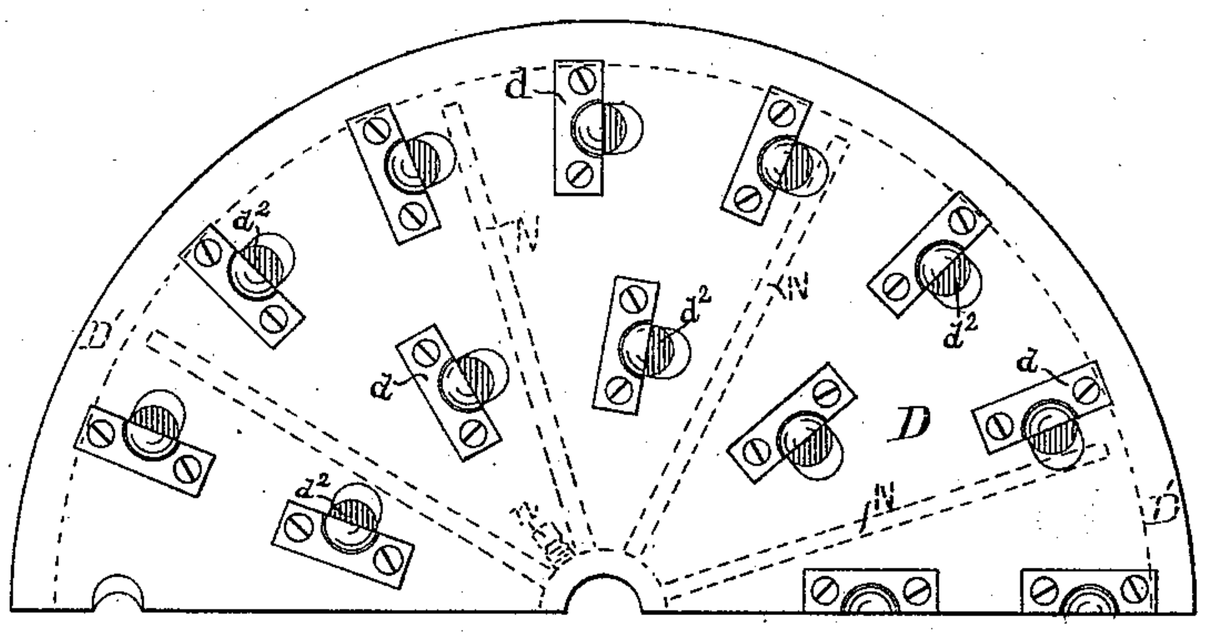

Fig. 3.

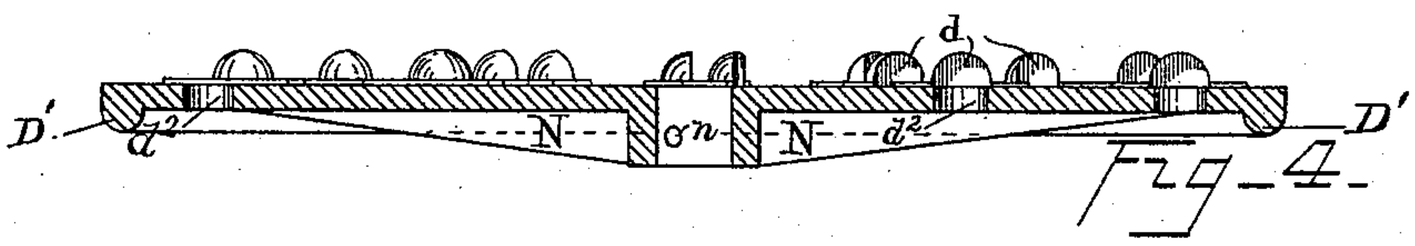

Fig. 4.

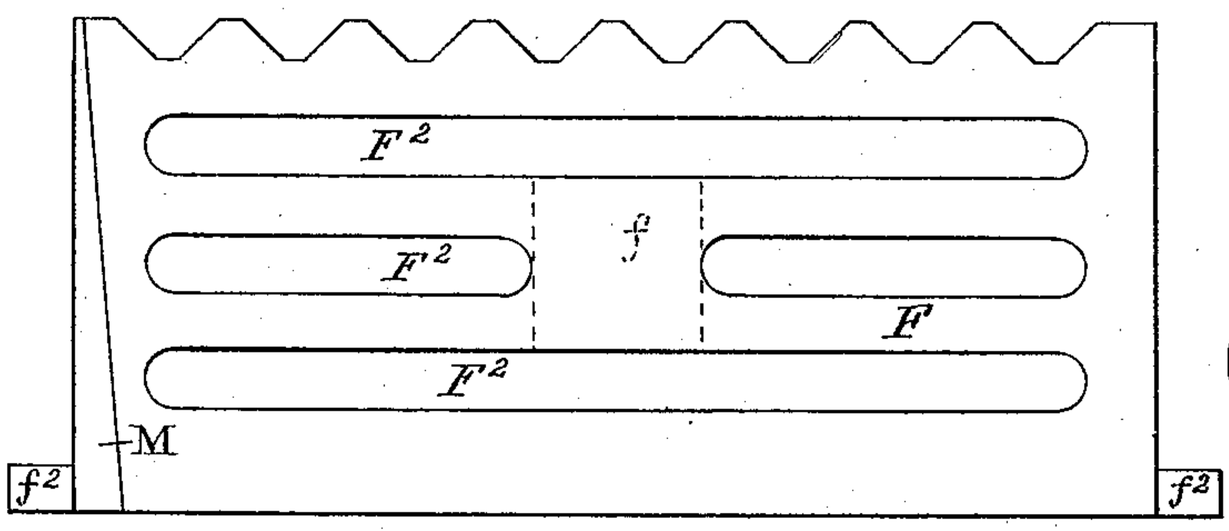

Fig. 5.

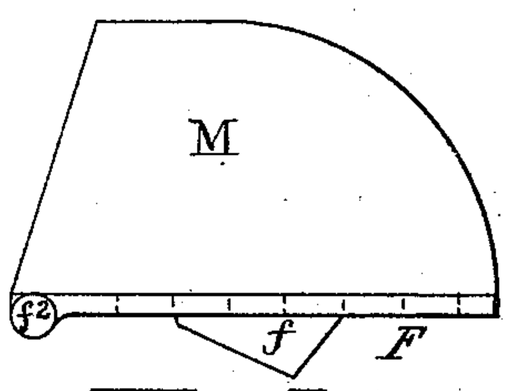

Fig. 6.

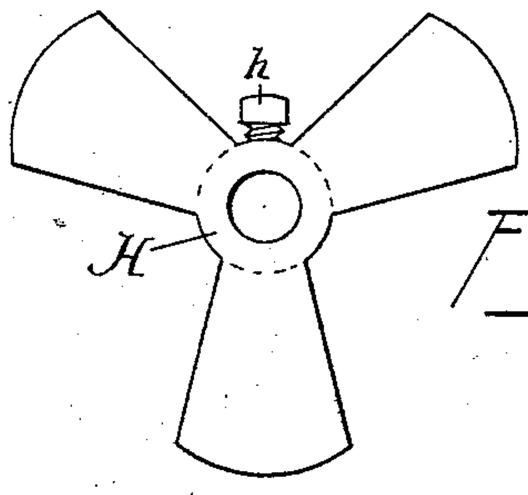

Fig. 7.

Witnesses
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Inventor
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UNITED STATES PATENT OFFICE.

OLIVER E. THOMPSON, OF YPSILANTI, MICHIGAN.

ROOT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 529,219, dated November 13, 1894.

Application filed February 27, 1894. Serial No. 501,681. (No model.)

To all whom it may concern:

Be it known that I, OLIVER E. THOMPSON, of Ypsilanti, in the county of Washtenaw and State of Michigan, have invented a new and useful Improvement in Root-Cutters, of which the following is a specification.

My invention consists in an improvement in root-cutters, hereinafter fully described and claimed.

Figure 1 is a side elevation, with a portion of the box broken away. Fig. 2 is a rear elevation, with the rear end of the box partly raised. Fig. 3 is a front elevation of one half of the cutting knife. Fig. 4 is a side view of Fig. 3. Fig. 5 is an elevation of the grate; Fig. 6, an end view thereof, and Fig. 7 is an elevation of the shaking cam.

A represents a box, open at one end and at the top, and supported on legs B.

C represents a shaft journaled in bearings K on the cross pieces of frame B, to which is secured a rotary cutter, formed of a cast iron plate D, in which are formed a series of openings d^2, each of which is partly covered with a knife d, made of sheet steel, bent into a semispherical form over the hole d^2, and secured to plate D by bolts.

The cutter D may be strengthened by radial ribs N, and I provide it with a rim D′, whereby it acts like a fly wheel.

G represents a portion of the bottom of the box A, set on an incline, as shown in dotted and full lines in Fig. 1, and usually made of boards. This part of the bottom only extends a portion of the way down toward the cutter, and the rest of the bottom is made of an open work grate F, having slots F^2, formed therein, and a lug f formed on its bottom. This open grate is provided at its lower end, nearest the cutter D, with trunnions f^2, which fit in bearings fastened in the sides of box A. At one end of the shaking grate F, I from a raised and somewhat inclined plate M, for the purpose of preventing roots from being carried by the action of the cutter D into the corner of the box, where knives d cannot reach them.

H represents a cam, which may have three projections, as shown, or more, or less, sleeved on shaft C, and adjustably secured thereto by set screw h. When said shaft C is rotated, the projections of cam H intermittently strike lug F, raising and dropping the grated bottom F, thus causing said bottom to perform two functions—first, that of shaking dirt off the roots, and second, that of crowding the roots toward the cutter D, and the amount of motion of said grated bottom F may be varied within certain limits by moving cam H forward or backward on the shaft C.

In machines of this class, it is frequently important to get at the bolts which hold the knives d to the cutter D, and for this purpose I make vertical slots in box A, back of the cutter, in which I put a sliding back E, which can be lifted out, to expose the bolts which hold the knives.

O represents a curved partition, inclosing the upper half of cutter D, to prevent roots from passing over the said cutter and L represents an apron, extending down toward the bottom of said cutter, to receive and guide the cuttings which pass through the holes d^2.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a root-cutter, the combination with the casing A open at the top and at one end, of a rotary cutter mounted on a rotary shaft journaled in said casing, a pivoted inclined grate arranged in front of said cutter, a rearwardly and downwardly inclined lug f on the bottom of said grate, and a cam H adjustably mounted on said shaft and rotating against said lug, substantially as and for the purpose described.

2. In a root-cutter, the combination with the casing A open at the top and at one end, of a rotary cutter D, a fixed inclined imperforate shelf G, an inclined grate F arranged in front of said cutter, said grate being pivoted at its lower end to the casing and supported at its upper end in the same plane with the shelf G, and a rotary cam disconnected from and intermittently striking against the bottom of said grate, substantially as described.

3. In a root-cutter, the combination of the casing A, the rotary cutter D, the pivoted inclined grate F provided at one side with a vertical plate M gradually inclined from its top toward the center of the lower edge of the grate and a cam for vibrating the said grate and its attached vertical plate, as and for the purpose specified.

OLIVER E. THOMPSON.

Witnesses:

CALVIN SIMMONS,

WALTER P. BEACH.