

(No Model.)

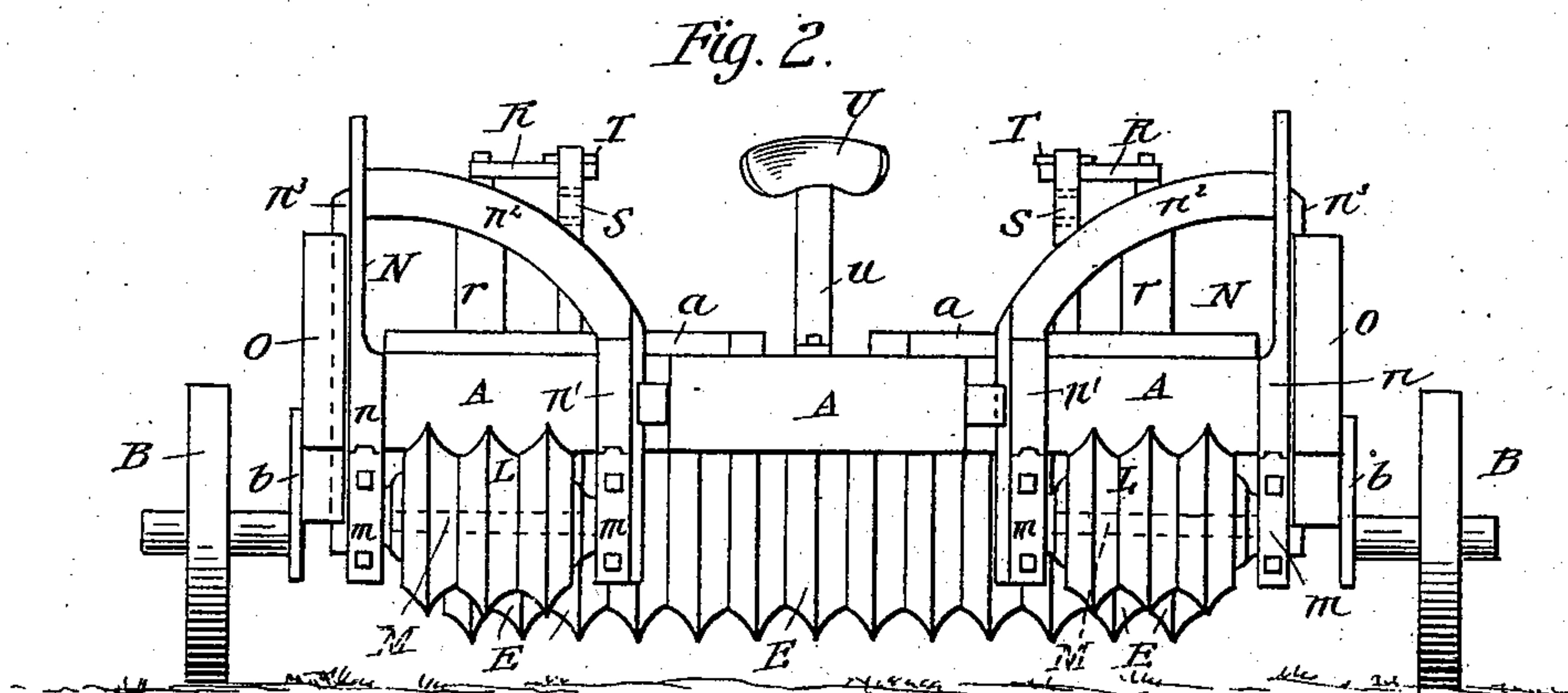
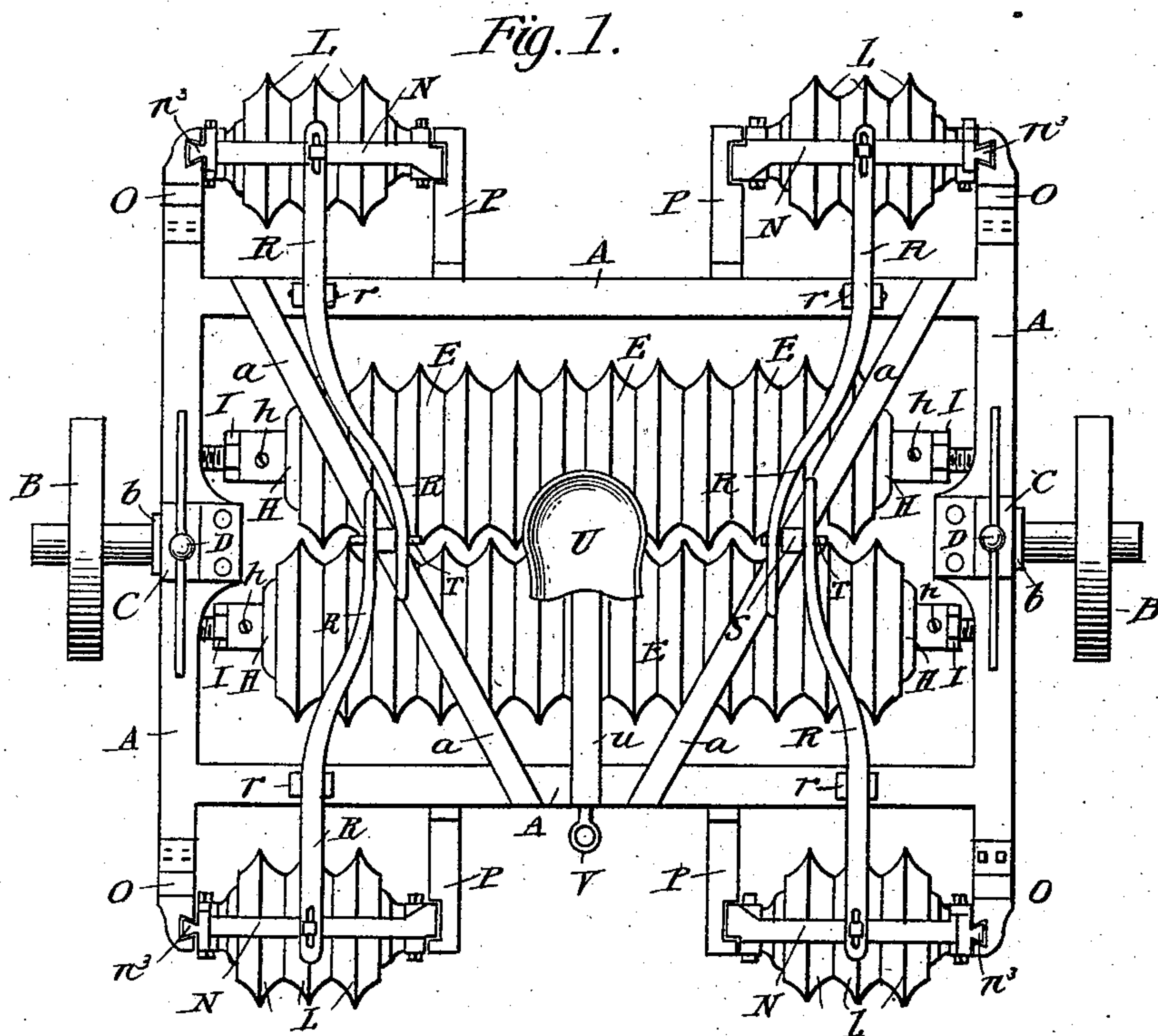
2 Sheets—Sheet 1.

F. TWICK.

LAND ROLLER AND CLOD CRUSHER.

No. 380,003.

Patented Mar. 27, 1888.



WITNESSES:

C. Sedgwick.
J. M. Ritter.

INVENTOR:

F. Twick.

BY

Munn & Co.

ATTORNEYS.

(No Model.)

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Fig. 3.

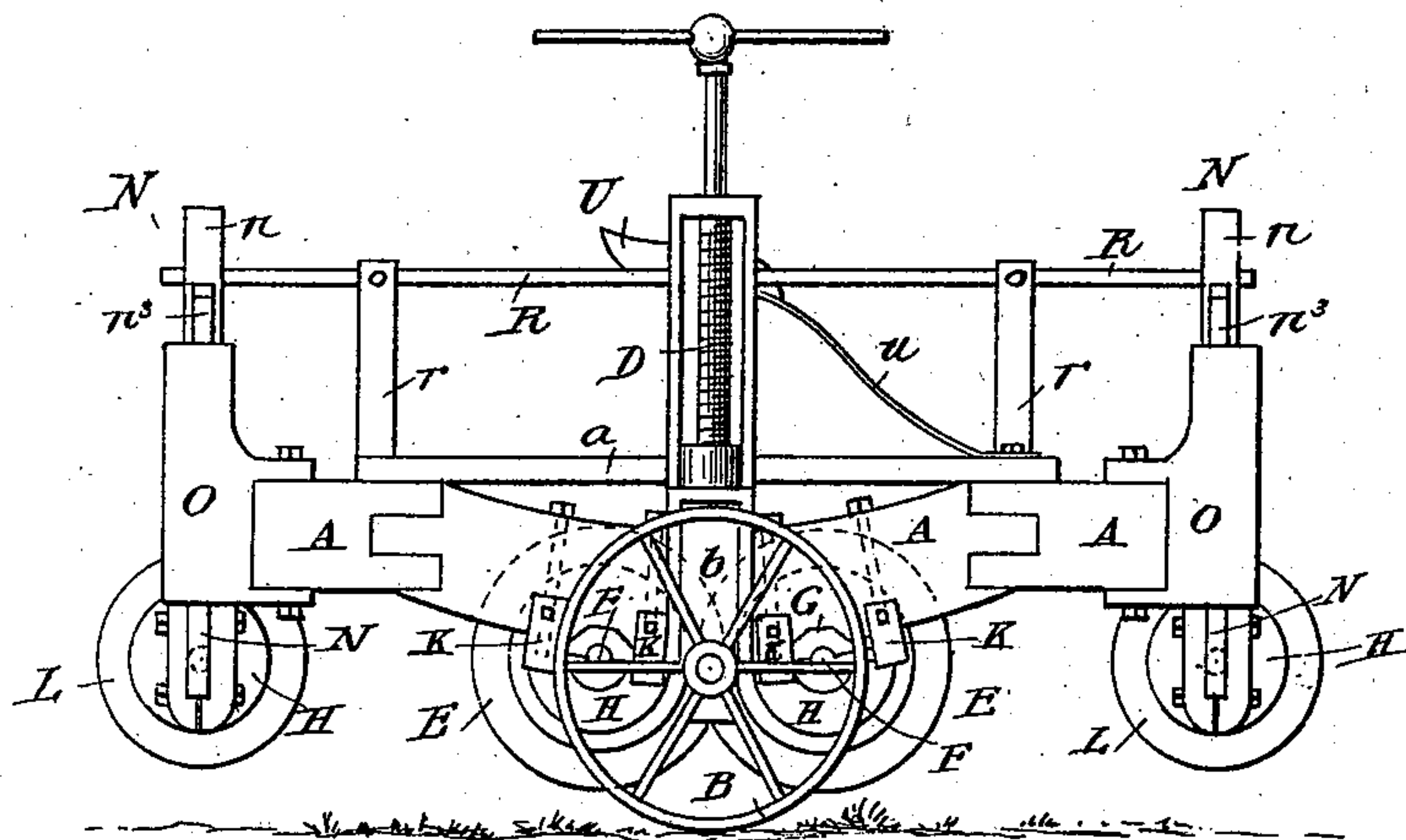


Fig. 4.

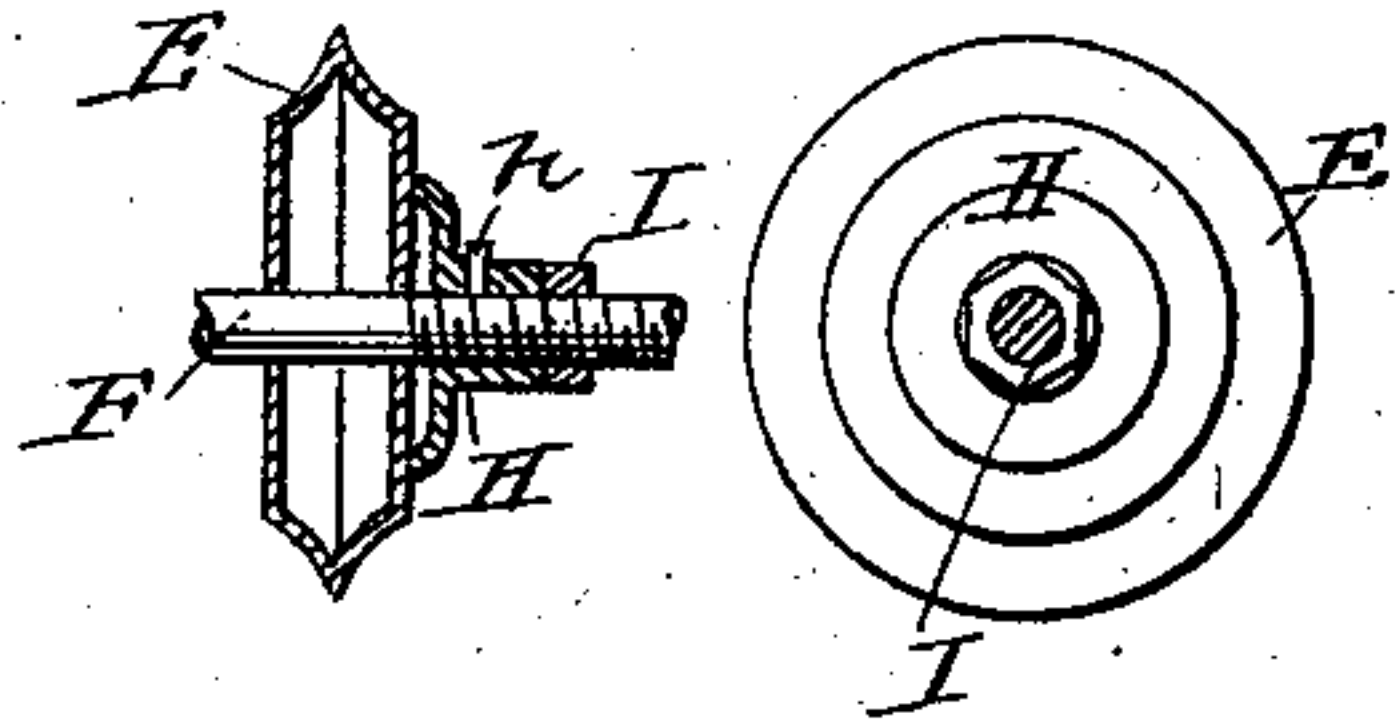


Fig. 5.

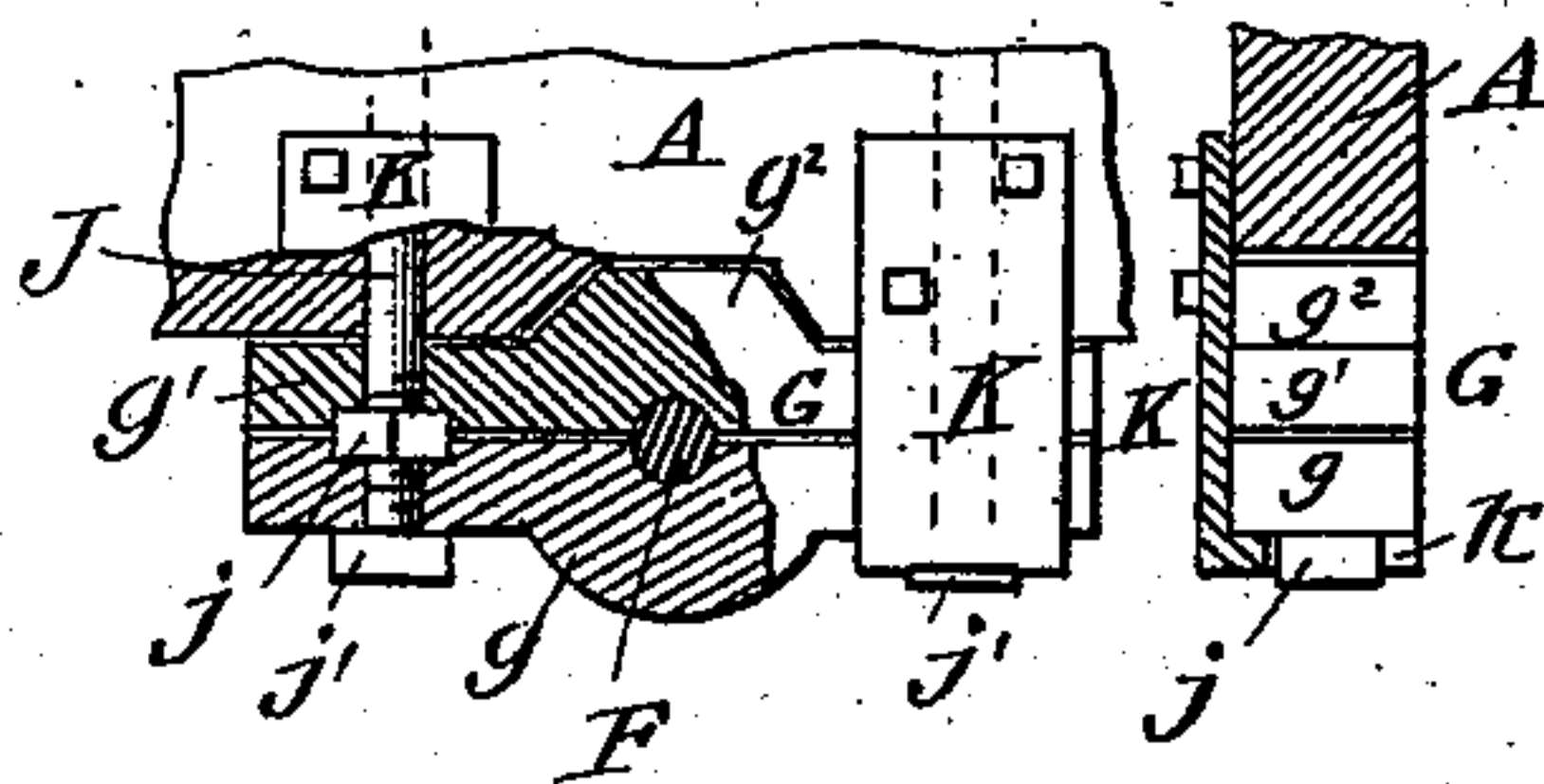
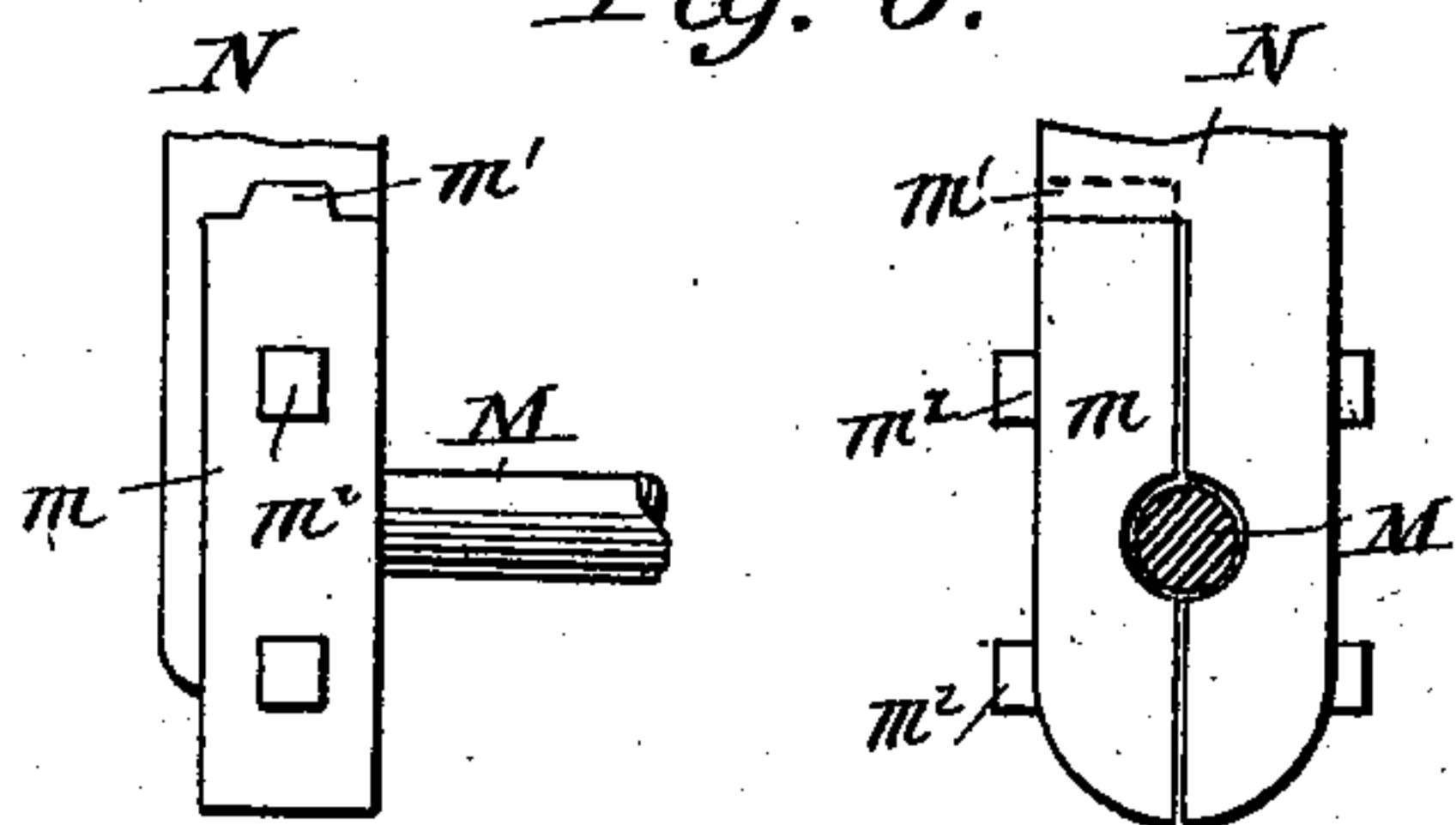


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRIEDRICH TWICK, OF SHEBOYGAN, WISCONSIN.

LAND-ROLLER AND CLOD-CRUSHER.

SPECIFICATION forming part of Letters Patent No. 380,003, dated March 27, 1888.

Application filed June 24, 1887. Serial No. 242,387. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH TWICK, of Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented a new and Improved Land-Roller and Clod-Crusher, of which the following is a full, clear, and exact description.

My invention relates to a machine for rolling, crushing, and pulverizing land to prepare it for receiving crops; and the invention has for its object to improve the construction of a machine of this class for which United States Letters Patent No. 339,601 were granted me April 6, 1886, and in such manner as shall make the machine more positive in its action and promote convenience in operating it.

The invention consists in certain novel features of construction and combinations of parts of the machine, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved land-roller and clod-crusher. Fig. 2 is a front view thereof. Fig. 3 is a side elevation of the machine. Fig. 4 shows a transverse section of one of the colters and part of its shaft, and also a side view of the colter. Fig. 5 shows a sectional side view of one of the journal-bearings of the colter-shaft and part of the frame, and also a transverse sectional elevation thereof; and Fig. 6 represents edge and side views of the bearings in which the auxiliary front and rear colters are journaled.

The frame A of the machine is mounted on two side wheels, B B, each of which is journaled to a plate, b, which may be adjusted vertically in a frame or housing, C, fixed to the main frame A, by turning screws D, to which the wheel-axle boxes are connected, to allow the frame which carries the colters E to be adjusted nearer to or farther from the ground to cause the colters to work at any required depth in the soil, and substantially as described in my prior patent aforesaid. Diagonal braces a a, fixed to the front and rear bars of the frame A, give it requisite strength.

The disk colters E are each made hollow and with an angular or A-shaped periphery, (see Fig. 4,) and are fitted in two main rows or se-

ries on two parallel shafts, F F, which are journaled in boxes G, of peculiar construction, and presently described. The sharp edges of the peripheries of one series of the colters E stand quite close to the joints between the colters of the other series, so that the peripheries of the two series of colters interlock laterally of the machine. (See Fig. 1 of the drawings.) To hold each series of colters E securely in place on the shaft F, I screw-thread the opposite ends of the shaft, and upon these ends of the shaft are fitted the internally-threaded central parts or collars of heavy washers or clamp-plates H, which are screwed up tightly against the end colters of each series, and are preferably held in place on the colter-shaft by set-screws h, and outside of the plates H set or jam nuts I are screwed up tightly on the shaft, thereby securely locking the clamp-plates and colters in place to hold one series of colters in proper relation to the other series to assure effective action of the machine on the soil.

The boxes G of the colter-shafts F are made in two parts, g g', in each of which the shaft has a bearing, and the upper parts, g, of the boxes are provided at the center with a projection or boss, g², which is fitted into a correspondingly-shaped recess or notch in the frame A, to prevent front or rear movement of the boxes on the frame. The bolts J J, by which the split boxes G are held to the frame A, each have a nut or collar, j, screwed onto or fixed to it, and the two parts g' g of the box are provided at their opposing faces with recesses fitting the sides of the nuts j, and whereby, when nuts j' are screwed upon opposite ends of the bolts J at upper and lower faces of the frame A, through which the bolts pass, the internal nuts or collars, j, will prevent lateral movement of the two parts of the box on each other. The boxes thus are held securely to the frame and are stayed against movement in either direction, and give substantial support to the two interlocking series of colters E E on the frame. The lower nuts, j', of the bolts J are locked against loosening by plates K, which are bolted to the frame A and have inward lower parts or flanges at the lower side of the frame, which have slots k, inclosing the bolt-nuts, as most clearly shown in Fig. 5 of the drawings.

At each of the four corners of the main frame A a series of hollow colters, L, like those E

above described, are held on a shaft, M, which is journaled in a frame, N, which consists of two opposite uprights, n n' , connected by a head-piece or cross-bar, n^2 . The upright n is provided with a dovetail tongue, n^3 , which may slide in a groove made in a short post, O, bolted to the main frame. The opposite upright is fitted to slide in a block or bearing, P, which is also fixed to the main frame. Each frame and shaft N M may thus be adjusted in height to cause the auxiliary colters L to work steadily at any desired depth in the soil. For adjusting these colters L, I provide levers R, one for each frame N, each of which is fulcrumed on an upright, r , fixed to the frame A, and is connected at one end to the frame N and at its other end ranges along a lock-bar, S, fixed to a brace, a , of the frame, and a pin, T, may be passed through the lever R and the bar S to lock the connected frame N and its colters L at any height to which they may be adjusted. The levers R R, connected to the colter-frames N N at each side of the machine, range at opposite sides of a bar, S, and there are two bars S, one at each side of the driver's seat U, which is supported on a spring-bar, u , fixed to the frame A; hence the levers of any or all of the auxiliary colter-frames may be conveniently reached by the driver from his seat to adjust the colters as circumstances may require.

The bearings for the auxiliary colter-shafts M in their frames N are made as most clearly shown in Fig. 6 of the drawings. One half of the shaft is fitted into a bearing in the main body of the frame, which is cut away at one side to accommodate a detachable block, m , in which the other half of the shaft-bearing is formed, and which has at its upper end a lug, m' , fitted to a correspondingly-shaped recess in the frame, and whereby, when the block m is held to the frame N by bolts m^2 , the block will be stayed against movement in any direction, and will give substantial support to the shaft M and the auxiliary colters L thereon.

The drawings show three auxiliary colters in each group at the corners of the frame; but there may be more or less than three in each group, and they will be held to their shafts by flanged collars H, and it may be by jam-nuts, substantially as above described, for the colters E on the shafts F.

When the machine is to be drawn to the field, the screws D will be operated to raise the en-

tire frame A to hold the colters E L clear of the ground, and when the field is reached the screws will be turned to lower the frame on the wheels to cause the colters E to work at any desired depth in the soil, and the auxiliary colters may also be brought into action at any time by manipulating the levers R to cause the earth to be rolled, crushed, and pulverized to any extent the nature of the crop to be planted may require.

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

1. In a land-roller and clod-crusher, the combination, with the main frame A and shafts F, carrying disk colters, of journal-boxes G, held to the frame and in which the shafts are journaled, and said boxes made in two parts, g g' , the part g having a projection, g^2 , entering a notch in the frame, and bolts J, holding the boxes to the frame and provided with nuts or collars j , entering recesses in the parts g' of the boxes, substantially as shown and described.

2. In a land-roller and clod-crusher, the combination, with the main frame carrying series of disk colters E, of auxiliary colters L, held to frames N, having opposite side parts fitted to slide in bearings O P on the main frame, substantially as shown and described.

3. In a land-roller and clod-crusher, the combination, with the main frame carrying series of disk colters E, of frames N, fitted thereto and carrying auxiliary colters L, and the shafts M of the colters L, fitted in bearings formed partly in the frames N and in removable half-boxes m , provided with projections m' , entering notches in the frames N and bolted to said frames, substantially as shown and described.

4. In a land-roller and clod-crusher, the combination of a main frame, A, series of disk colters E E, journaled thereto and held to their shafts by clamp-plates H H and jam-nuts I I, series of auxiliary disk colters L, held to frames N, vertically adjustable in bearings O P, held to the frame A, and levers R, fulcrumed on the frame A and connected to the frames N, for adjusting the auxiliary colters, substantially as described, for the purposes set forth.

FRIEDRICH TWICK.

Witnesses:

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F. RAAB.