

(No Model.)

2 Sheets—Sheet 1.

W. SCHRADER.

POTATO DIGGER.

No. 391,086.

Patented Oct. 16, 1888.

Fig. 1.

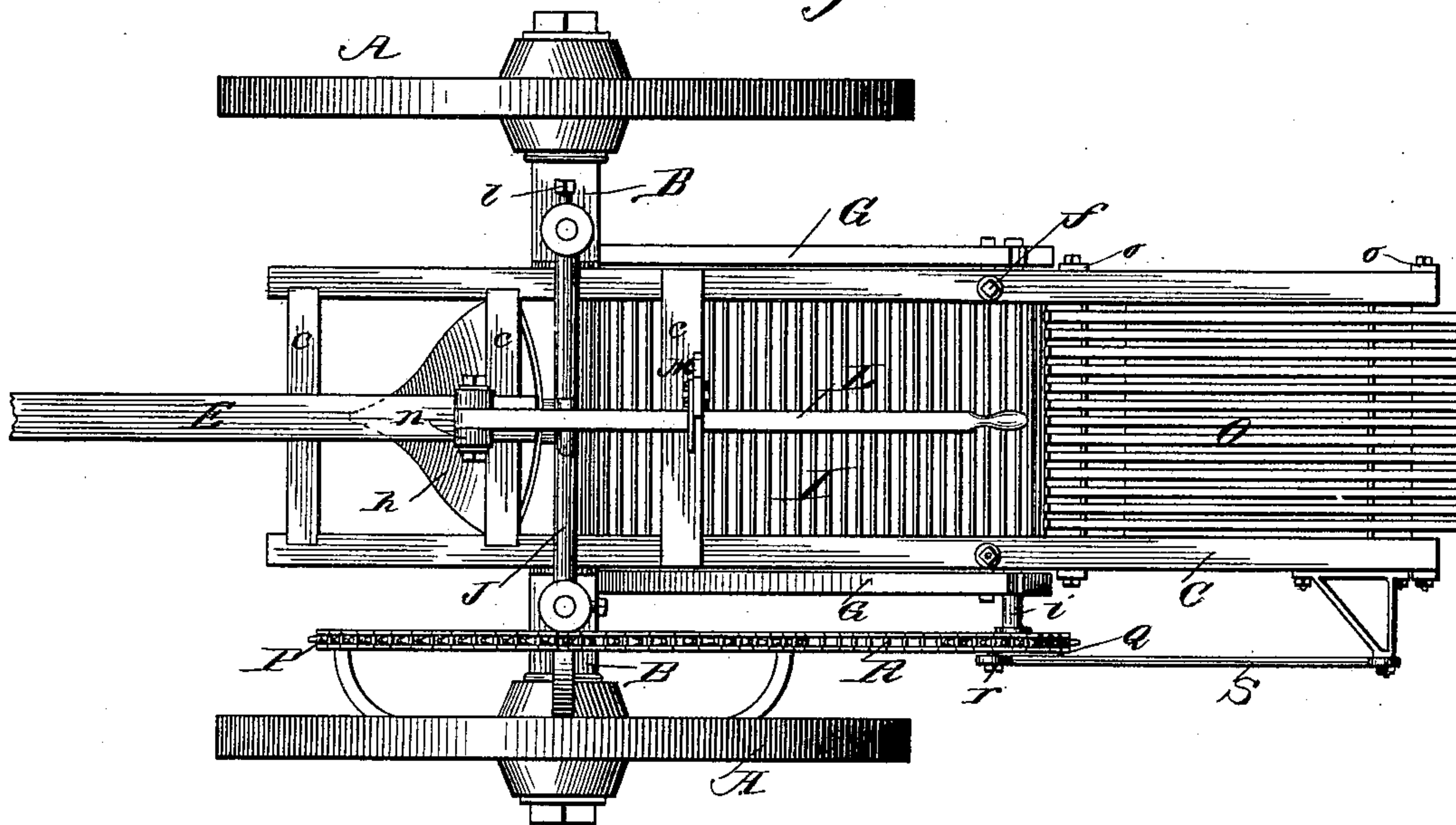
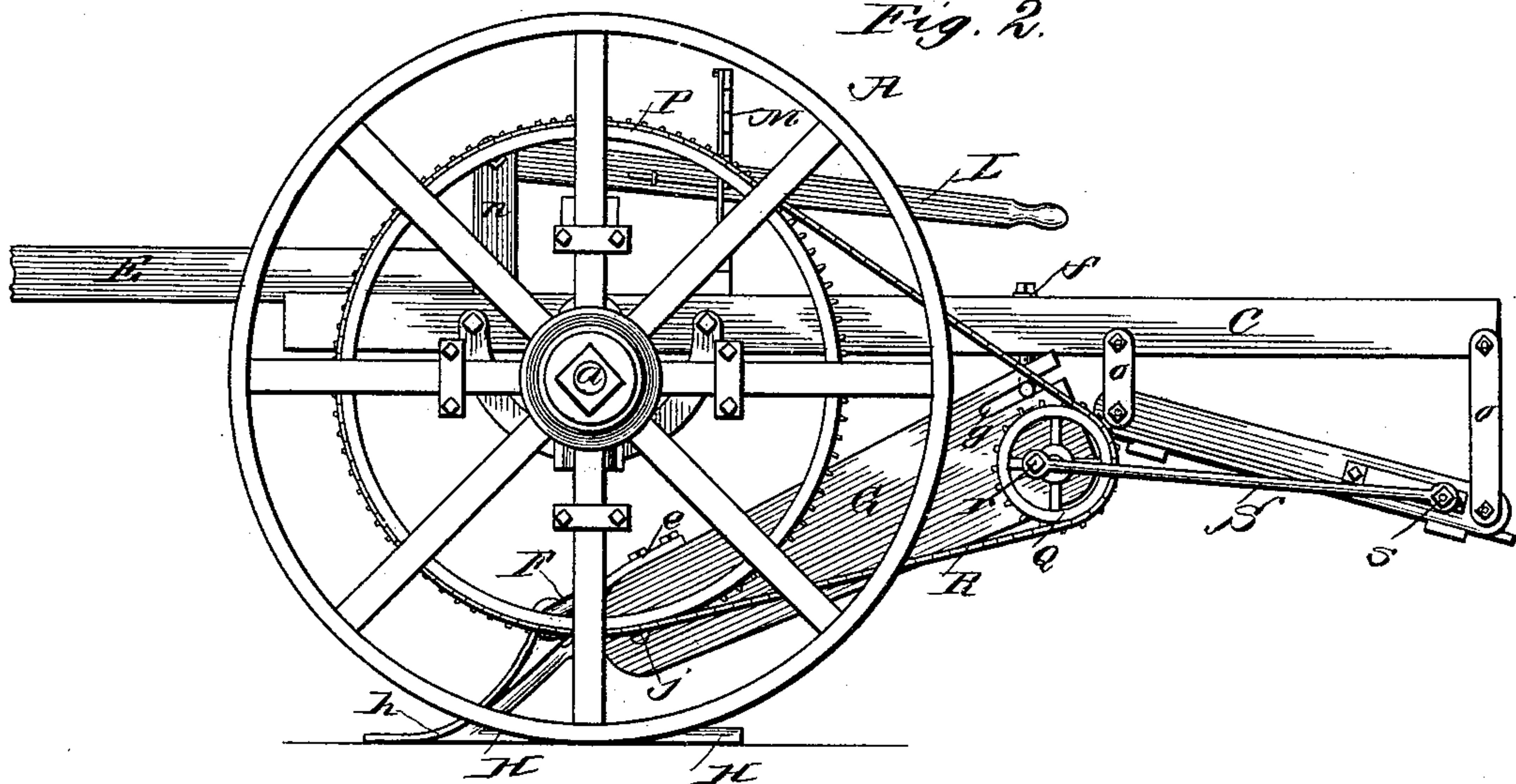


Fig. 2.



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Fig. 3.

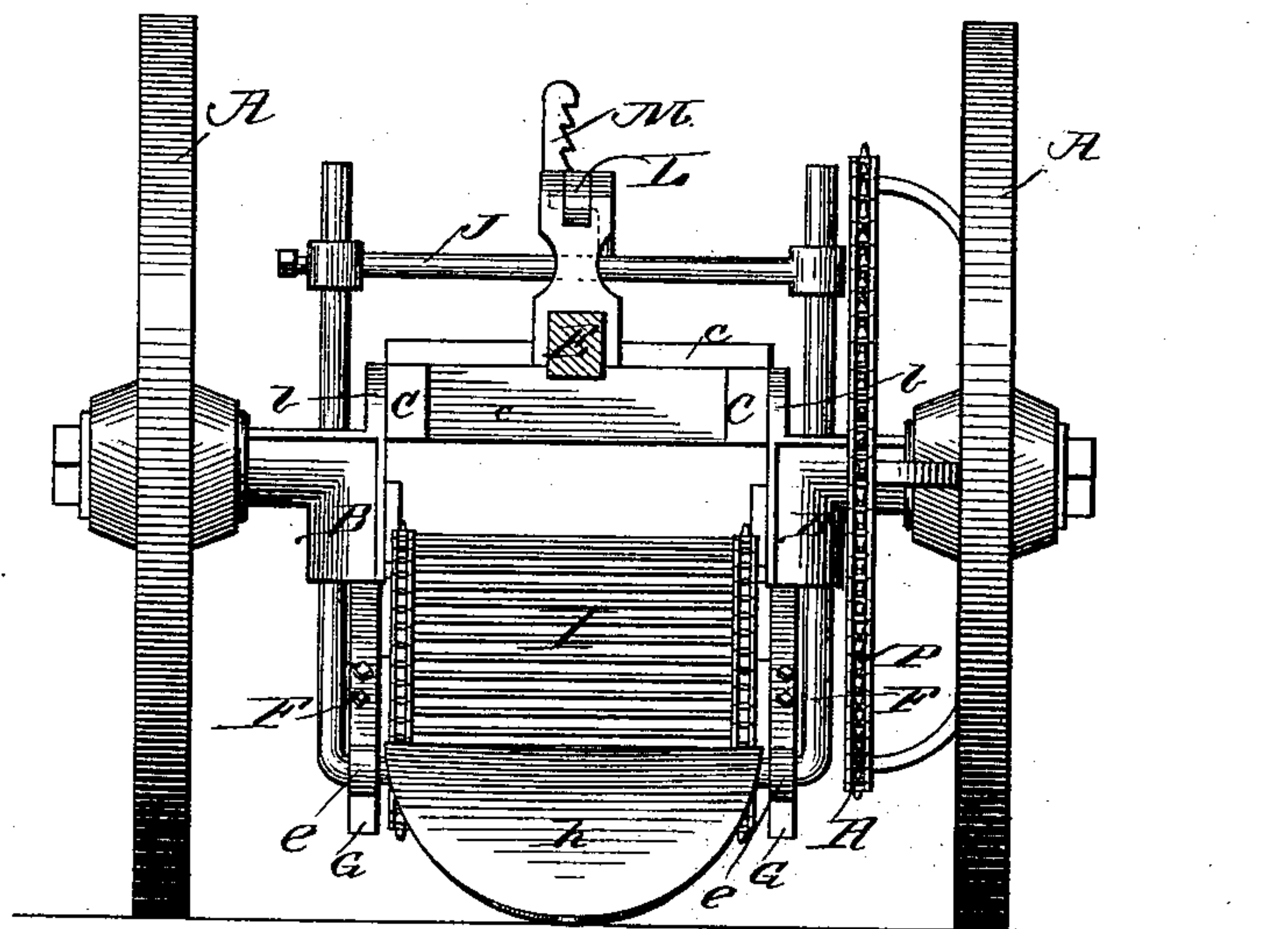
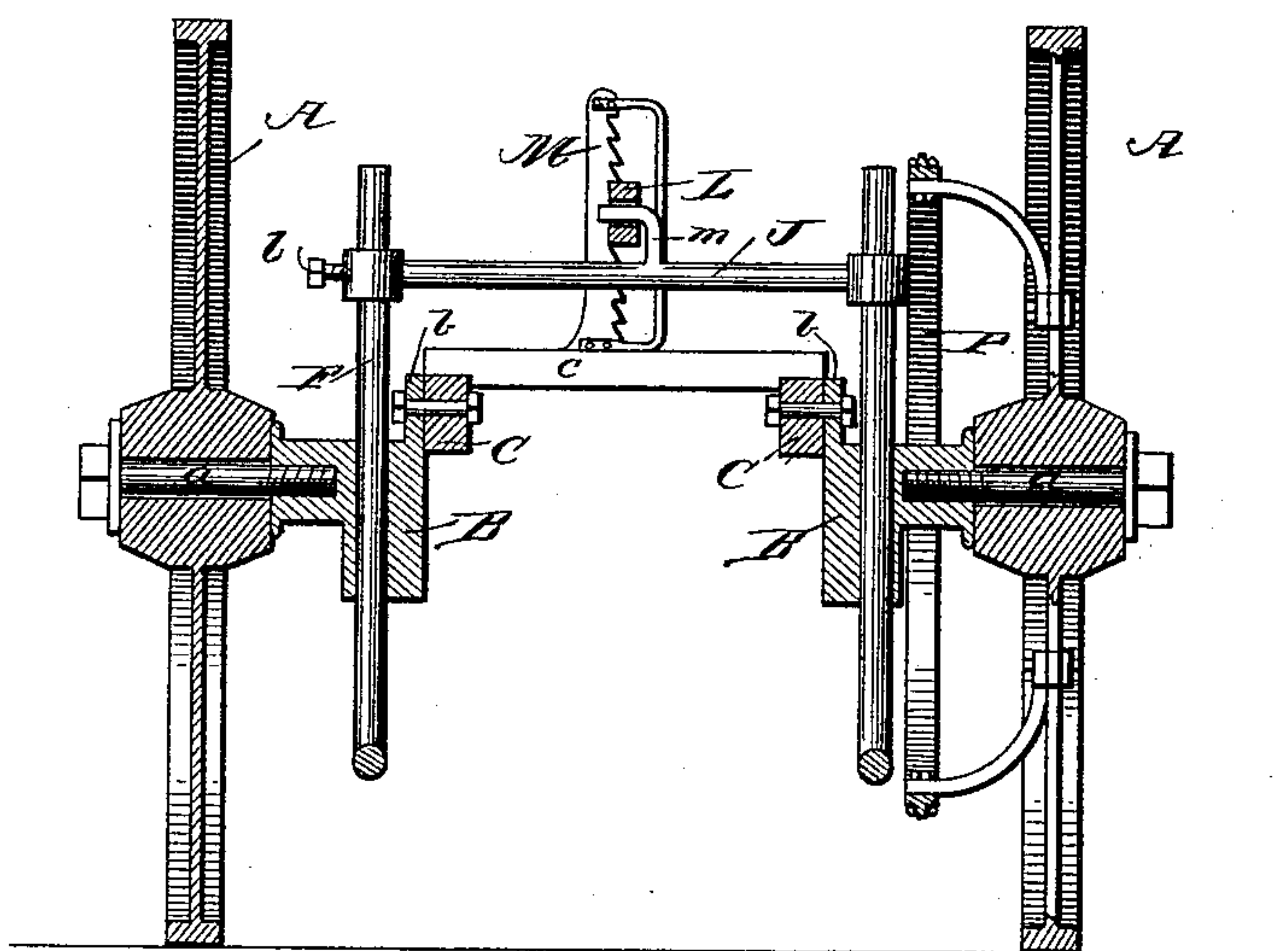


Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM SCHRADER, OF ARLINGTON HEIGHTS, ILLINOIS.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 391,086, dated October 16, 1888

Application filed May 28, 1888. Serial No. 275,397. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHRADER, a citizen of the United States of America, residing at Arlington Heights, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Potato-Diggers, of which the following is a specification, reference being had therein to the accompanying drawings.

The nature of my invention relates to the construction and arrangement of the several parts of a potato-digger, as will be hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a plan view; Fig. 2, a side elevation; Fig. 3, a front elevation, and Fig. 4 a transverse vertical section through the line of the axle-journals of the machine.

Corresponding letters of reference designate like parts in all the figures.

The journals *a* of the traction-wheels A are secured into short L-shaped pieces B, preferably cast of metal. These pieces B, by flanges *b*, are secured against the sides of a wooden frame composed of longitudinal side beams, C, and cross-beams *c*, permanently secured together and having rigidly fastened upon the forward cross-beams the pole E for hitching the horses.

The pieces B are each vertically cored out for receiving and guiding the vertical shanks of a U-shaped frame, F, bent of round bar-iron, the lower portions of which vertical shanks are curved for bringing the horizontal connecting portion of this frame to a more forward position, whereupon it is pivotally coupled by straps *e*, the frame G, the rear end of which is suspended to the side beams, C, on hook-bolts *f*, engaging slots *g*. To the forward end of frame G is rigidly secured the plow-shoe H, carrying the curved metallic plow-plate *h*.

Between the front and rear ends of frame G are journaled two shafts, *i* and *j*, each having mounted inside of said frame, at the opposite sides thereof, sprocket-wheels for endless chains *k*, stretched thereupon and connected by wooden slats that form a grate-shaped endless apron, I.

The upper ends of the vertical shanks of U-shaped frame F are connected by a cross-bar,

J, having eyed ends passed over such shanks and being secured by set-screws *l*. Upon its middle portion this bar J has a hook-shaped bracket, *m*, engaging a slot in lever L, pivoted to standard *n* and engaging with the teeth of vertical ratchet-bar M, both standard *n* and ratchet-bar M being rigidly secured upon cross-beams *c*. The rear end of lever L is to be in easy reach from the driver's seat, (not shown on drawings,) and by means of this lever L the driver can raise and lower the plow shoe.

Under the rear end of frame-beams C is suspended on hanger-bars *o*, so as to be rearwardly inclined, a frame, N, carrying a series of longitudinal bars to form a grate, O. To the spokes of one traction-wheel A is secured, by clamping or otherwise, a large sprocket-wheel, P, and upon the projecting end of shaft *i* is mounted a small sprocket-wheel, Q, and over both these sprocket-wheels is stretched an endless chain, R, that will drive the endless apron I. Sprocket-wheel Q is also provided with a crank-pin, *r*, coupled by a pitman, S, with a side bracket, *s*, rigidly secured to frame N, to impart a shaking movement to such frame N and grate O while the machine is being pulled over the field.

The *modus operandi* of the machine is as follows, to wit: The plow-shoe H, being adjusted to pass under the potatoes, will remove them from the ground and convey them back upon the endless apron I, which again will convey them upon the shaking-grate O, where the dirt is freed from the potatoes, and which will drop them, together with the vegetation, at the rear.

With the arrangement of dispensing with an axle by securing the journals to pieces B, and with the U-shaped frame F passed through these pieces B, a larger opening is obtained for the vegetation of the potatoes to pass through in being conveyed toward the rear without clogging the machinery parts.

What I claim is—

1. The combination, with L-shaped pieces B B, having bores in the vertical members or parts and having attached the traction-wheel journals, of U-shaped frame F, guided in pieces B, and carrying the plow-plate *h*, substantially as set forth.

2. The combination, with L-shaped pieces B B, having bores in the vertical members or

parts and having attached the traction-wheel journals, of U-shaped frame F, guided in pieces B, and having cross-bar J, coupled with lever L, for vertical adjustment, the frame F, supporting the front end of swinging frame G, with endless apron I, and with plow-plate h, substantially as set forth.

3. The combination, with L-shaped pieces B B, having bores in the vertical members or parts, and having attached the traction-wheel journals and being secured to frame C, of U-shaped frame F, guided in pieces B, and hav-

ing cross-bar J coupled to lever L, of frame G, carrying endless apron I, and having secured plow-plate h, and of shaker-grate O, suspended to frame C, all substantially as described, to operate as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM SCHRADER.

Witnesses:

WILLIAM H. LOTZ,
OTTO LUBKERT.