

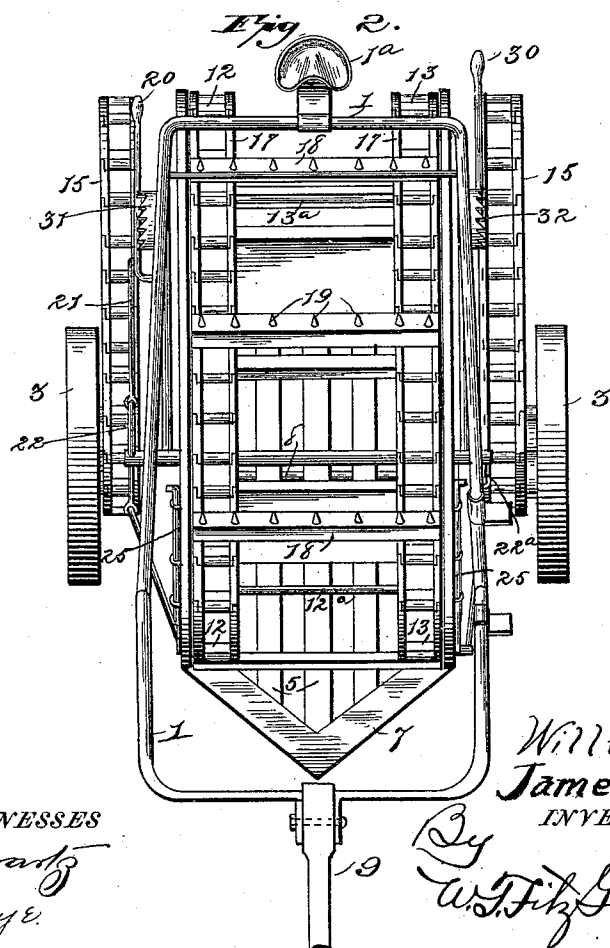
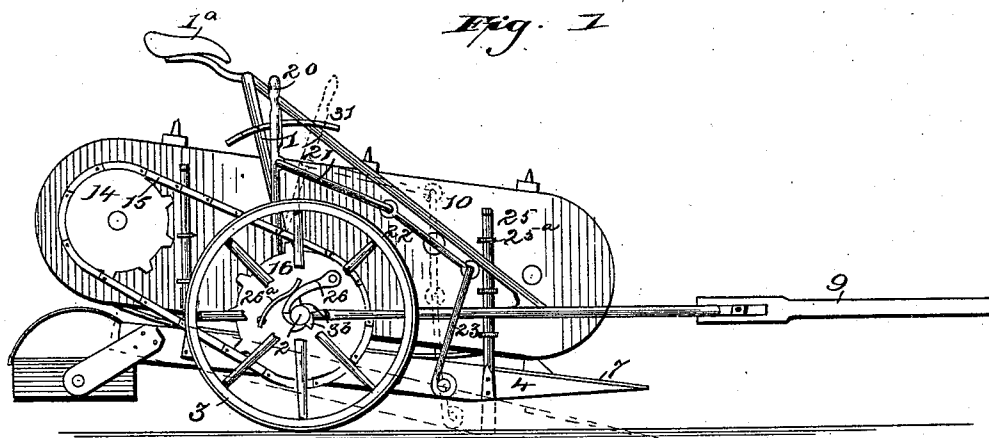
(No Model.)

2 Sheets—Sheet 1.

W. GRASHAM & J. W. MOORE.
POTATO DIGGER.

No. 469,136.

Patented Feb. 16, 1892:



WITNESSES

A. J. Schwartz
C. S. Frye

William Grasham
James W. Moore
INVENTORS

By
W. T. Fitzgerald & Co.
Attorneys.

(No Model.)

2 Sheets—Sheet 2.

W. GRASHAM & J. W. MOORE.
POTATO DIGGER.

No. 469,136.

Patented Feb. 16, 1892.

Fig. 3.

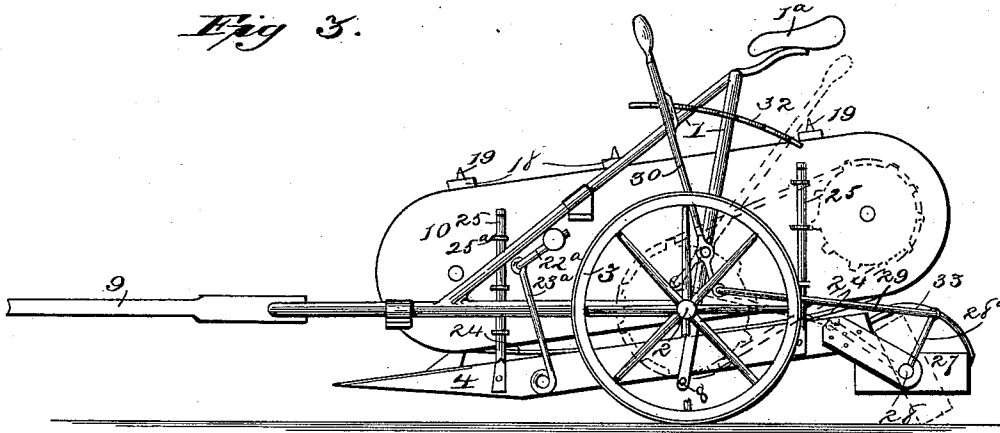
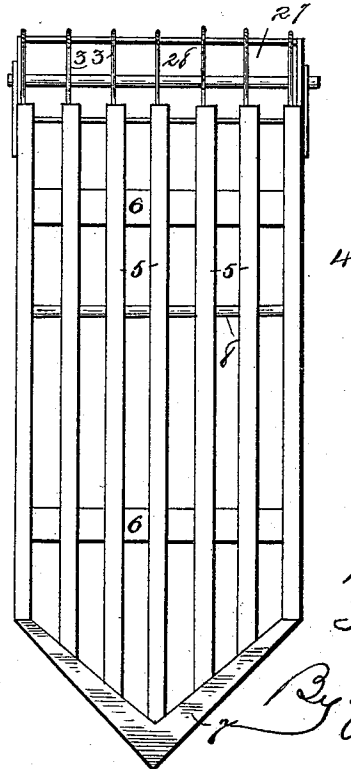


Fig. 4.



WITNESSES
A. J. Schwartz
C. S. Frye

William Grasham
James W. Moore
INVENTORS

By W. D. Fitzgerald & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM GRASHAM AND JAMES WILDER MOORE, OF MOUNTAIN HOME,
ARKANSAS.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 469,136, dated February 16, 1892.

Application filed February 28, 1891. Serial No. 383,217. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM GRASHAM and JAMES WILDER MOORE, citizens of the United States, residing at Mountain Home, in the county of Baxter and State of Arkansas, have invented certain new and useful Improvements in Potato-Digging Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention consists in a new and improved potato-digging machine, which, while comparatively simple in its construction, will dig the potatoes with great rapidity and deliver them cleared of the earth which adheres to them when dug out of the ground into a box or receptacle at the rear end of the machine which can be swung over on its supporting-rod when full to discharge its contents in a heap on the ground; and our invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a side elevation of our new and improved potato-digging machine. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of the opposite side to that shown in Fig. 1, with the outer sprocket-wheels shown in dotted lines. Fig. 4 is a top plan view of the digging-frame with its end box.

The same numerals of reference indicate corresponding parts in all the figures.

Referring to the several parts by their designating-numerals, 1 indicates the outer metal supporting-frame of our invention, which is formed with the outwardly-extending side axles 2, on which revolve the main supporting and drive wheels 3. The inclined digging-frame 4 is formed of a series of bars 5, preferably square in cross-section, which are arranged longitudinally, so as to leave open spaces between them, and are secured on cross-bars 6. The front ends of these longitudinal bars are curved upward on their lower sides and have a V-shaped cutting-blade 7 secured upon them, as shown. A metal rod 8 passes through the outside bars 5 and is secured at its ends in the extended lower ends of the side pieces of the metal frame 1, this rod 8 passing through the digging-frame to

the rear of the center of its length, so that its forward end will incline downward by its own weight.

9 indicates the tongue of the machine.

Within the metal frame 1 is mounted the conveyer-frame 10, between the ends of the side pieces 11 of which are mounted the front and rear sprocket-wheels 12 13 on transverse shafts 12^a 13^a. The ends of the rear shaft 13^a are extended and sprocket-wheels 14 are rigidly secured on them, and drive-chains 15 pass around these wheels and sprocket-wheels 16, which are loosely mounted on the axles 2 on the inner side of the main wheels 3. Around the inner sprocket-wheels pass chain belts 17 17, on which are secured the ends of transverse wooden bars 18, which are provided with the series of teeth 19 projecting from their outer sides.

On the right-hand side of the frame 1, in convenient reach of the driver's seat 1^a, is pivoted a hand-lever 20, pivotally connected by a rod 21 with an arm 22, secured on that end of a rod 23, which is supported in bearings in the frame 1, and passes through openings in the frame 10. An arm 22^a is secured on the left-hand end of this rod, and its two end arms are pivotally connected by rods 23^a with studs on the forward end of the digging-frame. It will be seen that by drawing back the lever 20 the forward end of the digging-frame will be raised, while by pushing the lever forward the front end of the digging-frame is lowered, and thus the depth at which the blade 7 enters the ground can be regulated at will. Curved springs 24 support the conveyer-frame 10 on the side bars of the digging-frame, rods 25 extending up from the sides of the digging-frame and passing through eyes 25^a on the sides of the conveyer-frame. The springs 24 24 serve by their pressure to hold the adjustable digging-frame steadily at the angle to which it has been adjusted and act as springs to take up any sudden jars or strain if the blade of the digging-frame comes in contact with sods or obstructions of any kind while in operation. The inner flanged ends 3^a of the main wheel-hubs are formed with inclined teeth 3^b, and on the outer side of each sprocket-wheel 16 is pivoted a pawl 26, the

free end of which is pressed by a spring 26^a into engagement with these teeth. By this arrangement it will be seen that when the machine is driven forward the main wheels 5 will revolve the sprocket-wheel 16, while when the machine is backed the inclined teeth 3^b slip freely under the ends of the pawl without turning the sprocket-wheels.

In operation as the machine is drawn forward the sprocket-wheels are revolved through 10 the drive-wheels, revolving the belts 17 17 in the conveyer-frame 10 in the direction indicated by the arrow in Fig. 2. As the machine moves forward the V-shaped blade 7 digs up 15 the potatoes, which are carried from the blade by the traveling toothed bars 18, up and along the square bars forming the digging-frame. As the potatoes are carried along this frame the earth dug up with them falls 20 through the spaces between the bars 5, and the potatoes finally fall from the rear end of the frame into a box 27. This box or receptacle is supported on a rod 28, between hangers at the rear end of the machine, and the 25 left-hand end of the rod 28 has an arm 28^a, the end of which is pivotally connected by a rod 29 with a pivoted lever 30. When the box 27 is full of potatoes, by pulling back the handle of the lever 30 the box is swung over or

tilted until it discharges the potatoes in a 30 heap on the ground, and is then righted by pushing forward the lever 30. The levers 30 and 20 are held at the points to which they are moved by racks 31 32. 33 indicate wire 35 guards which extend from the rear end of the digging-frame over the box 27.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

The combination, in a potato-digging machine, of the outer frame 1, the digging-frame 40 pivotally mounted therein and having the blade at its front end, the curved springs 24, arranged longitudinally above the side pieces of the digging-frame, the conveyer-frame 10, 45 resting on said springs, means for raising and lowering the front end of the digging-frame, and the belt revolving around the wheels in said frame and having the cross-bars provided with the series of teeth, substantially 50 as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM GRASHAM.
JAMES WILDER MOORE.

Witnesses:

W. S. TALLEY,
R. J. RUSSELL.