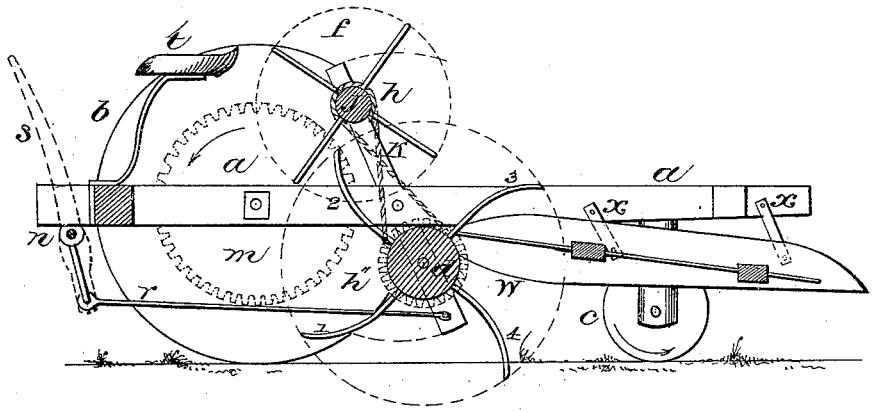
2 Sheets—Sheet 1.

D. F. BROWN.
Potato-Harvester.

No. 204,531. Patented June 4, 1878.

Fig 1



Attest:

J. B. Chadwick
Festus T. Stone

Inventor.

David F. Brown
By Thomas G. Orwig,
Attorney.

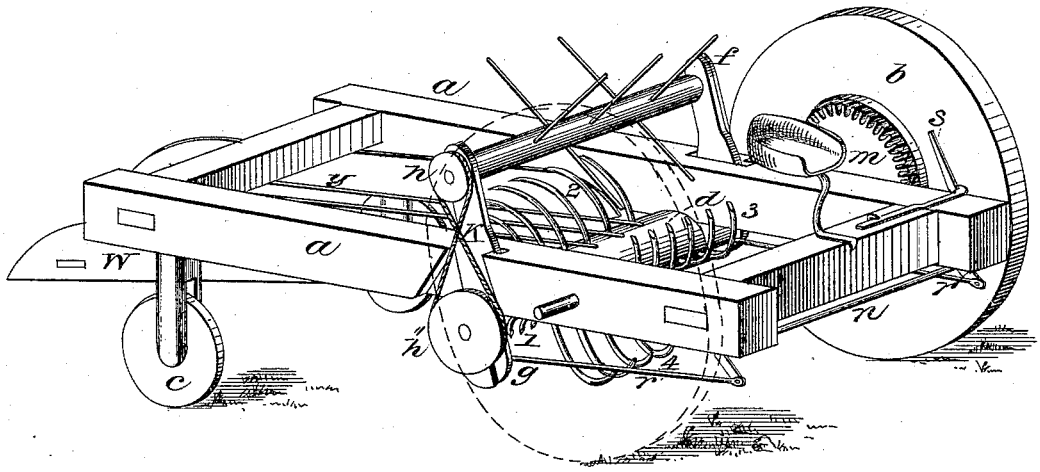
2 Sheets—Sheet 2.

D. F. BROWN.

Potato-Harvester.

No. 204,531. **Patented June 4, 1878.**

Fig 2



Attest:

A L Harrah
W. R. Brown

Inventor:

David F. Brown
By Thomas G. Orwig
Attorney

UNITED STATES PATENT OFFICE.

DAVID F. BROWN, OF NEWTON, IOWA, ASSIGNOR OF ONE-HALF HIS RIGHT TO RICHARD LAMB, OF SAME PLACE.

IMPROVEMENT IN POTATO-HARVESTERS.

Specification forming part of Letters Patent No. **204,531**, dated June 4, 1878; application filed August 10, 1877.

To all whom it may concern:

Be it known that I, DAVID F. BROWN, of Newton, in the county of Jasper and State of Iowa, have invented an Improved Potato-Harvester, of which the following is a specification:

The object of my invention is to save time, labor, and expense in gathering potato crops.

It consists in forming, arranging, and combining upon a tractable carriage a rotary digging and lifting fork, a fork-cleaning reel, and a vibrating separator, in such a manner that series of bent fork-tines will successively run under a row of potatoes as the carriage advances, and lift the potatoes, vines, weeds, and soil, and throw all rearward upon the vibrating riddle, to be separated, all as hereinafter fully set forth.

Figure 1 of my drawings is a longitudinal central elevation of my machine, and Fig. 2 is a perspective view, together illustrating the construction and operation of my complete invention.

a a is a rigid carriage-frame, that may vary in size, and is made of wood or iron, and joined together in any suitable way. *b* is one of the carriage-wheels, mounted upon a stub-axle rigidly attached to the outside of the frame *a a*, near its front end. *c* represents a supporting-wheel at the rear end and side of the carriage-frame. *d* is the rotating shaft or head of my digging-fork. It has its bearings in a vibrating frame. *f* represents a frame, pivoted to the carriage-frame *a a* in a vertical position, to carry my adjustable rotating fork in its lower end and my fork-cleaning reel in its upper portion. 1 2 3 4 represent series of bent tines, projecting radially from the fork-head *d*. *g* is a pinion, rigidly fixed on the end of the fork-head *d*. *h* is a pulley, rigidly fixed on the end of the axle of the reel J. A corresponding pulley, *h''*, is fixed on the end of the fork-head *d*. *k* is a crossing belt on the pulleys *h h''*, and connects the rotating fork and reel, and transmits motion from the fork to the reel. *m* is a drive-wheel, rigidly fixed on the inside of the carriage-wheel *b*. *n* is a rock-shaft, suspended upon bearings fixed to the front ends of the carriage-frame. It has a crank on each end, and the cranks are connected with the oscillating fork and reel-bearing frame *f* by means of rods *r*. *s* is a hand-lever, rigidly fixed to the shaft *n*, and within reach of the driver's seat *t*. *w* represents the frame of a vibrating screen, suspended from the rear portion of the carriage-frame *a a* by means of links *x x*. *y* represents a series of rods, forming the screen fixed in the frame *w*. *z* is a pitman, connected with a crank-pin on the pinion *g* and the suspended screen and separator *w y*, to transform rotary motion into rectilinear and vibrate the separator.

Two or more screens may be connected with the separator, to thoroughly clean the potatoes from dirt, and to prevent potatoes from falling through with the loose dirt, to be covered therewith.

In the practical operation of my invention a pole is fixed to the front and center of my machine and horses hitched thereto, and the carriage advanced over a row of potatoes.

The driving-wheel and pinion are thrown in gear by means of the operating mechanism *n r s*, and the rotating digging-fork lowered by the same means at the same time. As the machine advances, the driving-wheel *m*, engaging the pinion *g*, will rotate the fork forward and upward, and the series of bent tines 1 2 3 4 will successively run under the roots and potatoes in the row and elevate them, together with the soil, vines, and weeds, upon the front ends of the rods *y* of the separator. The reel *j*, actuated by the belt *k* on the pulleys *h* and *h''*, will revolve forward and downward, and its arms, passing between the fork-tines, will keep the fork clean, and also aid in carrying the vines and weeds rearward and separating them from the ground and potatoes thrown upon the separator *w y*. The connecting-rod *z*, actuated by the crank of the pinion *g*, will impart a reciprocating and shaking motion to the separator, to cause the dirt to rub off and fall away from the potatoes as they are passing rearward on the inclined separator to drop into a suitable receptacle carried at the rear end, or to drop upon the top of the ground, from whence they can be readily picked up.

I claim as my invention—

1. The rotating fork-head *d*, having the series of bent tines 1 2 3 4, the oscillating frame

f and the reel *j*, the pulleys *h* and *h''*, and the belt *k*, arranged and combined to operate substantially as and for the purposes shown and described.

2. The carriage *a b c*, having the driving-wheel *m*, the suspended oscillating frame *f*, carrying the fork *d*, reel *j*, and pinion *g*, and the operating mechanism *n r s*, arranged and combined substantially as and for the purposes shown and described.

3. A potato-harvester composed of the carriage *a b c*, the adjustable suspended frame *f*, carrying the fork *d*, reel *j*, and pinion *g*, the driving-wheel *m*, the operating mechanism *n r s*, and the vibrating separator *w y*, substantially as shown and described.

DAVID F. BROWN.

Witnesses:
A. L. HARRAH,
W. R. BROWN.