

(No Model.)

T. R. GRAY.
Potato Digger.

No. 229,602.

Patented July 6, 1880.

Fig. 1.

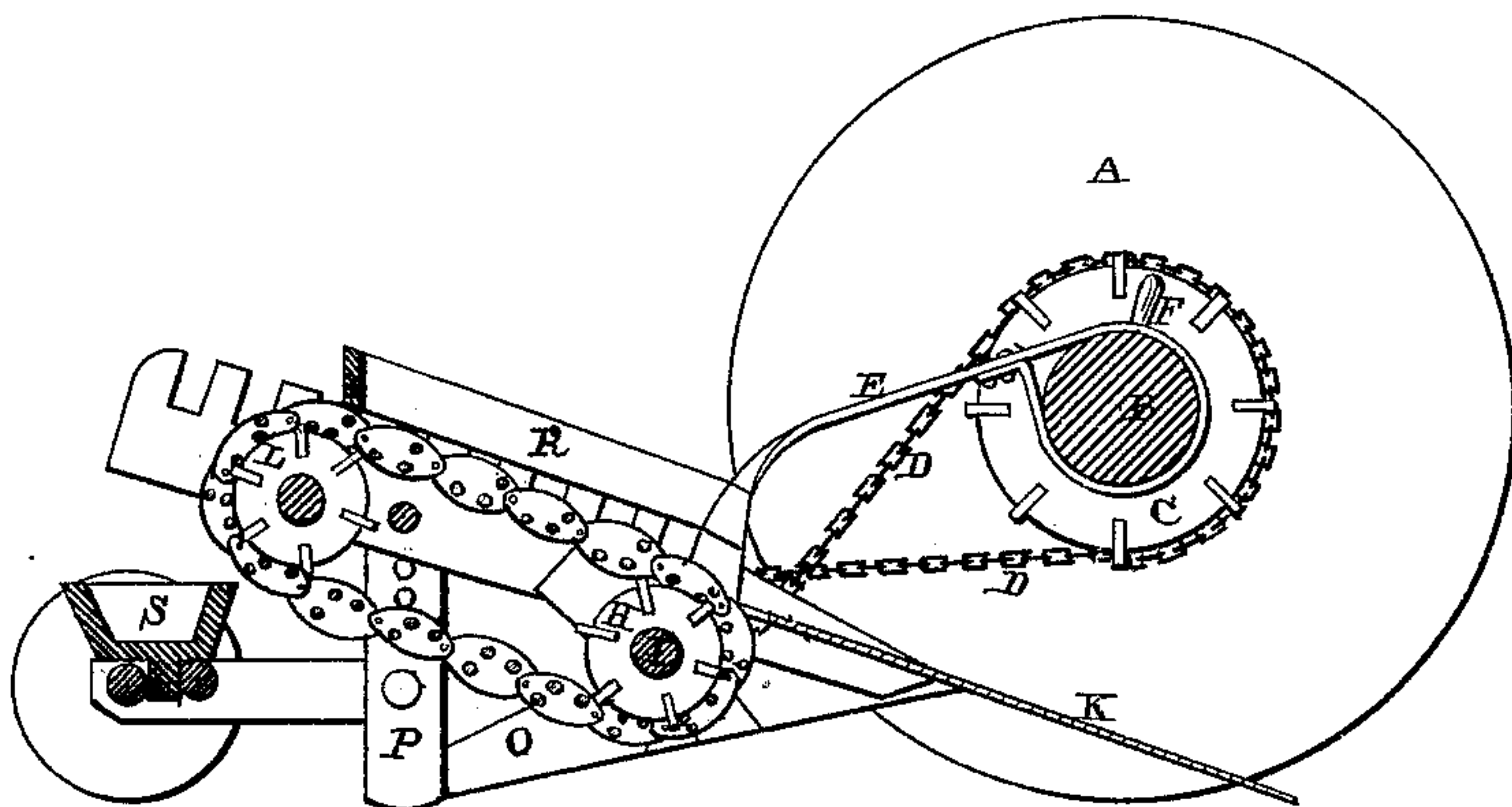
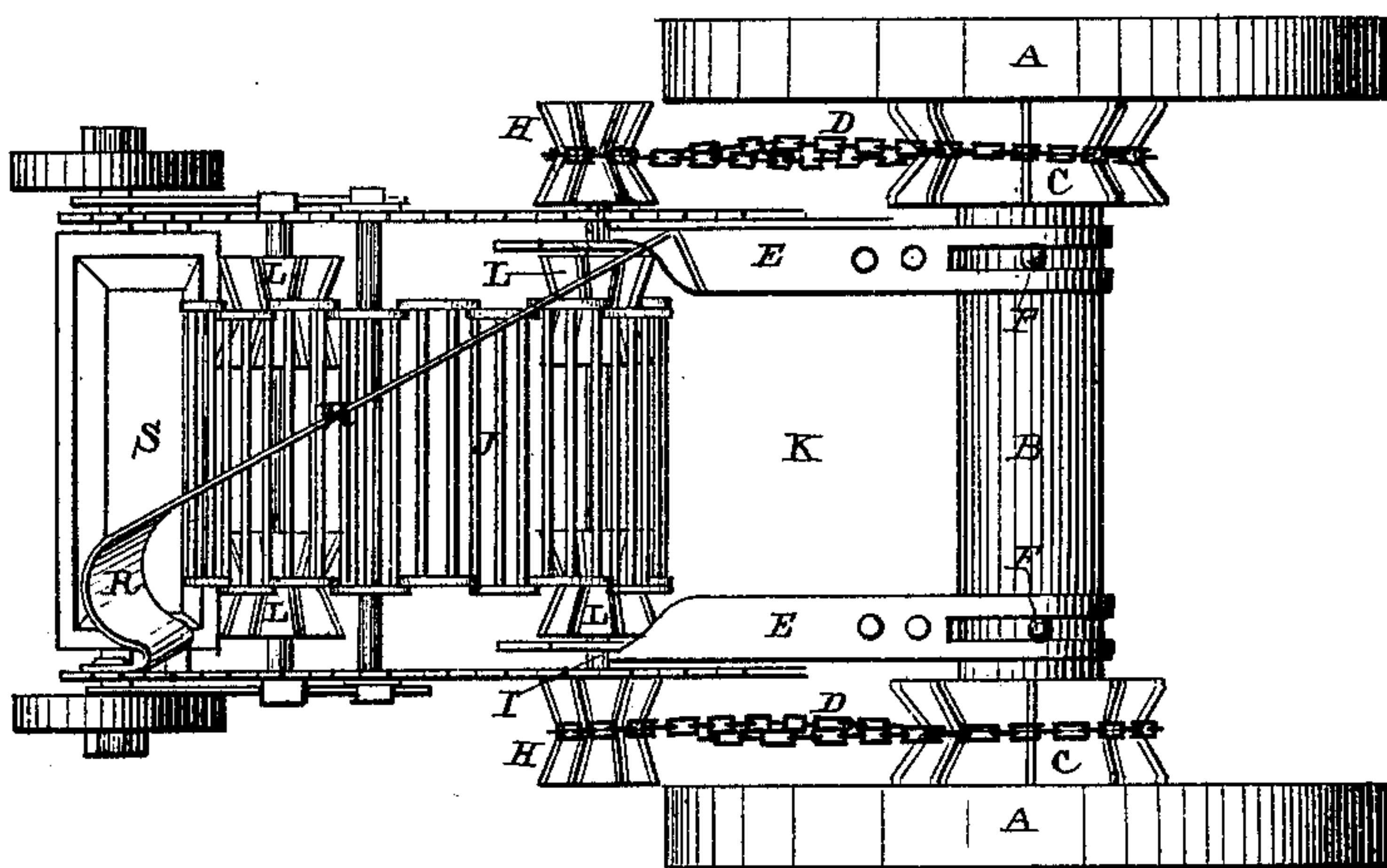


Fig. 2.



WITNESSES

W. W. Mortimer.
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INVENTOR

Thos. R. Gray,
per
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UNITED STATES PATENT OFFICE.

THOMAS R. GRAY, OF OTTUMWA, IOWA.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 229,602, dated July 6, 1880.

Application filed April 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. GRAY, of Ottumwa, in the county of Wapello and State of Iowa, have invented certain new and useful Improvements in Potato-Diggers; and I 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in potato-diggers; and it consists in a guide which is placed diagonally over the elevating-apron, for the purpose of guiding the potatoes on the apron over toward one corner, and where they will be discharged into the trough placed to receive them without any danger of their being carried too far backward.

It still further consists in slotting the front ends of the connecting-bands, which connect the potato digging and elevating device, with the axle of the driving-wheel, and making a hole through each end of the axle inside of these slots, so as to pass a holding pin or bolt down through each end of the axle, and thus limit the movement of the digging and elevating-frame up and down.

It further consists in the combination and arrangement of parts, which will be more fully described hereinafter.

The object of my invention is to provide a cheap and simple machine whereby potatoes can be dug from the earth as the machine is drawn along, separated entirely from the dirt while they are being raised upward on the elevating-apron, and then deposited in the trough made to receive them on the rear end of the frame.

Figure 1 is a vertical section of my invention. Fig. 2 is a plan view of the same.

A represents the two driving-wheels, which are placed loosely upon the ends of the axle B. Secured to the inner side of each wheel is a driving-pulley, C, each one of which has its cogs or catches, for engaging with the chain D, made of metallic plates, which are inserted in the edge of the pulley.

The potato digging and elevating attachment is secured to the axle by means of the

two bands, which have their front ends looped so as to pass around the axle at each end, and their rear ends bent or twisted so as to be turned at right angles to their body and secured to the inner side of the elevator-frame. The front looped ends of these two bands or connections E are slotted, as shown, and through each end of the axle, inside of these slots, are made holes, through which pins or bolts F are passed, and which bolts catch against the ends of these slots in the bands E, and thus limit the adjustment of the digger and elevating-frame up and down.

Passed over each one of the pulleys C is a crossed chain, D, the rear ends of which chain pass around the pulleys H upon the shaft I, which drives the elevating apron or carrier J. These pulleys H and a second pair, L, placed upon this driving-shaft I, inside of the elevating apron or carrier, are constructed similarly to the ones C, as shown. As the motion from these driving-pulleys C is transmitted through the driving-chains D the elevating apron or carrier is set in motion, so as to carry up the potatoes as fast as they are loosened from the earth by means of the wide digging point or plow K. This plow has the arms or levers O projecting back from each of its sides, and to the rear end of these arms or levers are secured the connecting-rods P, which have a series of holes in their upper ends, so that the point of the plow can be adjusted either up or down, so as to run shallower or deeper, as may be desired.

As the potatoes are received upon the carrier they are moved upward, and as they are carried upward the shaking movement of the carrier separates the potatoes from the dirt. As the potatoes are constantly liable to be carried too far backward as the machine moves along, a diagonal guide, R, is placed over the top of the elevator, and which guide draws the potatoes over toward one corner of the carrier. The rear end of this guide is bent, as shown, so as to receive the potatoes and give them a slightly inward movement as they drop from the end of the carrier, in contradistinction to the outward movement which they would receive from the carrier if this guide were not employed. Owing to this curved part of

the guide, the potatoes are dropped downward, so as to fall into the trough S, which is placed upon wheels and follows behind the elevator. As the potatoes drop into this trough at its front edge the forward motion of the machine distributes them readily over the bottom of the trough, and thus fills the trough up evenly its whole length. Where this guide is not used the potatoes receive such a degree of force as they drop from the carrier that they will be carried over the rear edge of the trough or be deposited only in the rear part of the trough instead of the front part, and thus have a constant tendency to be spilled out from the back edge.

As this machine moves along it not only digs the potatoes in the ground, but separates them from the dirt and deposits them in the trough. There may be connected to the front part of the machine, over the axle, a seat for the driver and a lever or other elevating device for raising the endless apron upward, so that the point of the plow will not come in contact with the ground as the machine is being moved from one field to another.

I am aware that a potato-digger having a rotary screen and an endless belt for guiding

the potatoes is not new, and this I disclaim. In that case the belt acts as a stop to prevent the potatoes from being carried around and around at the same time that it moves them outward.

In my invention an inclined endless apron is used, which raises the potatoes upward, and this guide extends diagonally across this apron, so as to guide the potatoes constantly toward one corner.

Having thus described my invention, I claim—

In a potato-digger, the combination of a plow, K, an inclined endless apron, J, and a driving mechanism with the diagonal fixed guide R, which extends upward over the top of the apron, so as to guide the upwardly-moving potatoes toward one corner of the elevator, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of April, 1880.

THOMAS R. GRAY.

Witnesses:

W. H. COFFMAN,
WM. ROBERTSON.