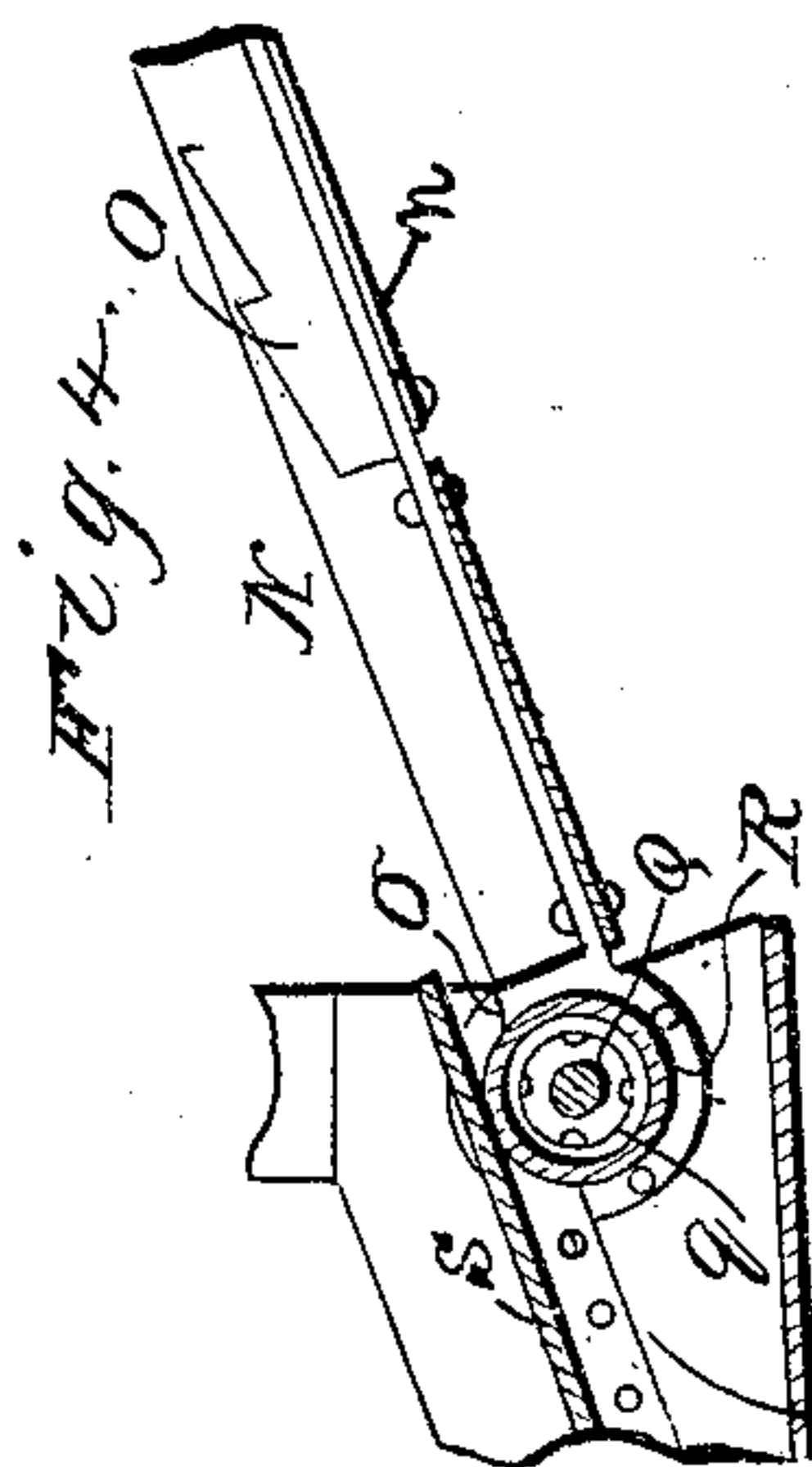
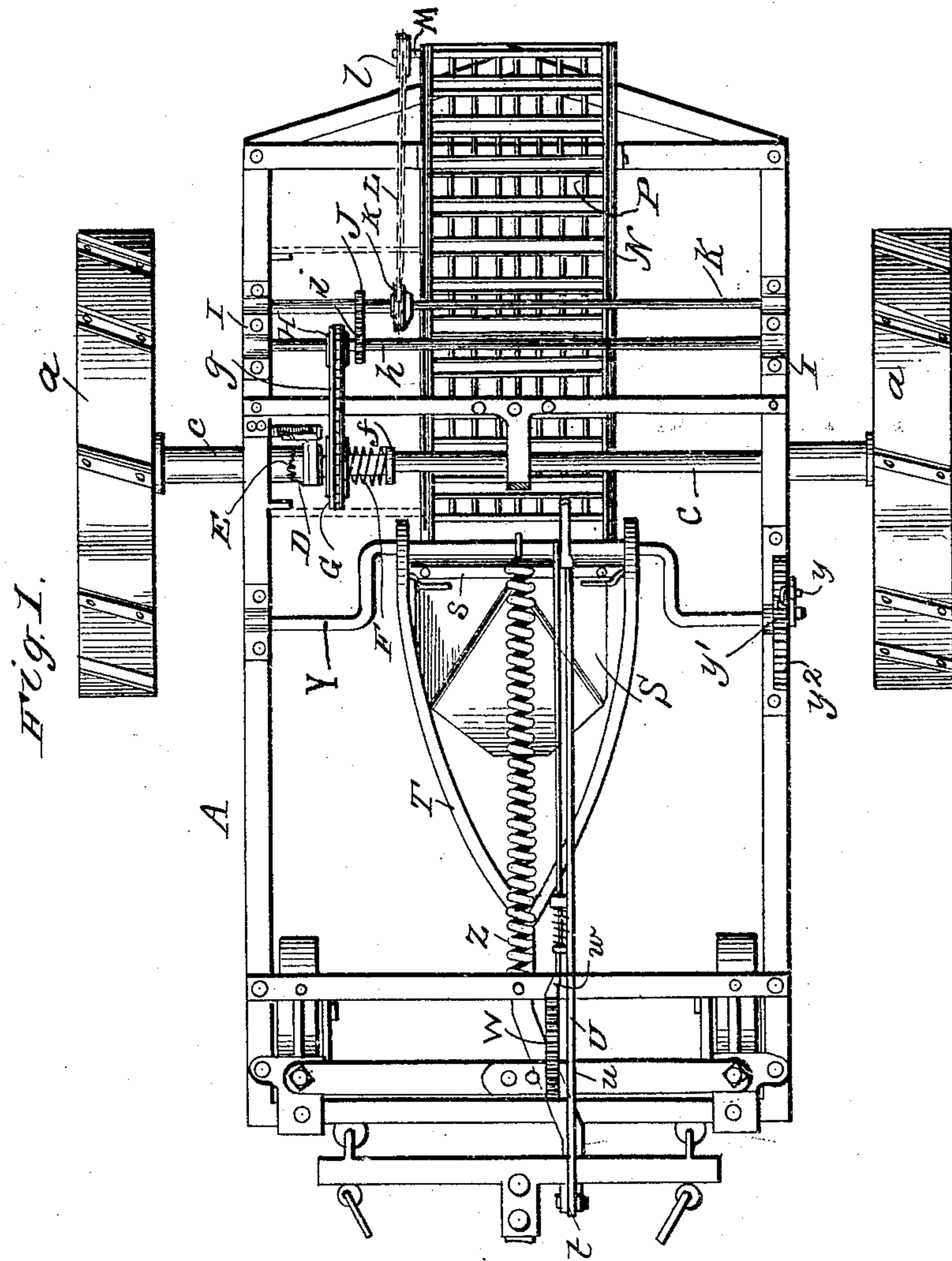


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 APPLICATION FILED MAR. 5, 1908.

953,968.

Patented Apr. 5, 1910.

2 SHEETS—SHEET 1.



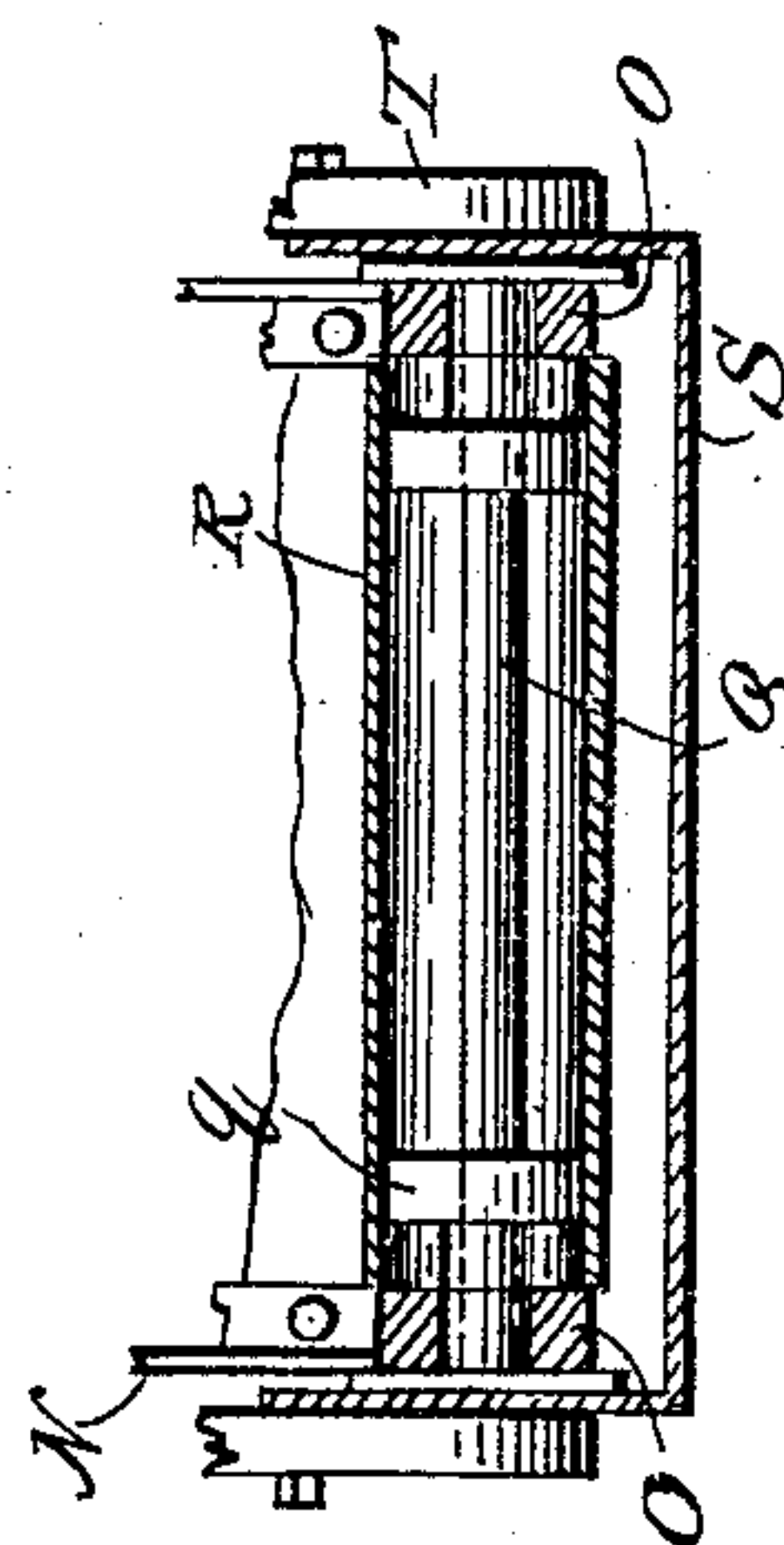
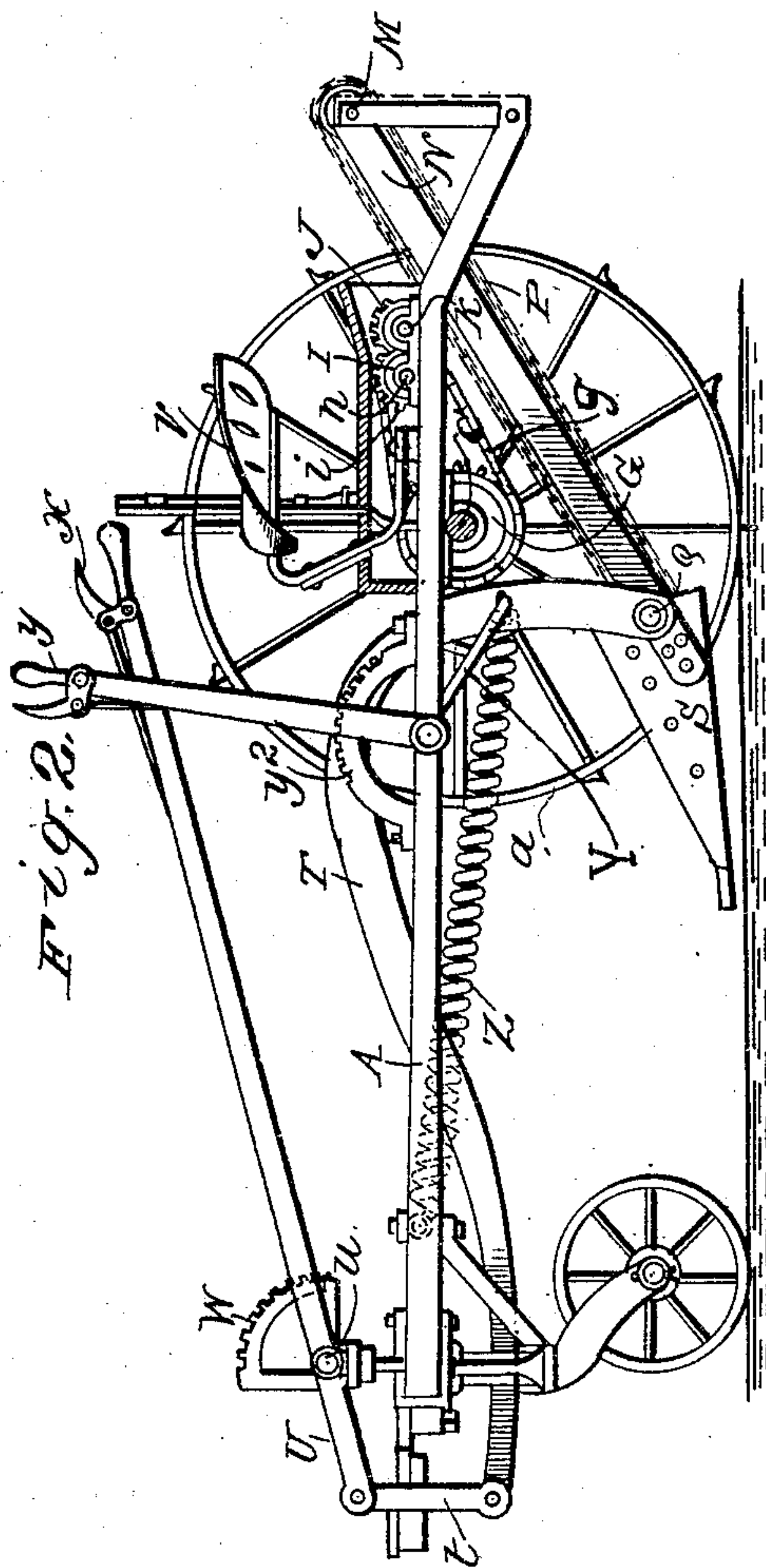
Witnesses  
 L. E. Barkley  
 Richard B. Owen.

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 L. C. Barkley  
 Richard Owen.

Inventor  
 Robert W. McKay,  
 by Frank. Apperian,  
 Attorney,



# UNITED STATES PATENT OFFICE.

ROBERT W. McKAY, OF WINTHROP, IOWA.

POTATO-DIGGER.

953,968.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed March 5, 1908. Serial No. 419,307.

*To all whom it may concern:*

Be it known that I, ROBERT W. McKAY, a citizen of the United States of America, residing at Winthrop, in the county of Buchanan and State of Iowa, have invented certain new and useful Improvements in Potato-Diggers, of which the following is a specification.

This invention relates to potato diggers and separators and has for its object the provision of novel means for excavating the potatoes and for conveying the potatoes with the dirt, grass, and like foreign substances up a conveyer provided with means for separating the dirt and small stones from the potatoes.

A further object of this invention is to provide means for adjusting the depth of the excavation from the front and rear, the excavating device being provided with means for guiding the materials to the conveyer.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, in which—

Figure 1, is a top plan view of the complete machine; Fig. 2, is a side elevation thereof; Fig. 3 is a transverse vertical sectional view through the drum on the end of the first conveyer frame, with certain parts in elevation; and Fig. 4 is a detail sectional view of the lower end of the conveyer frame and showing its relation to the excavating scoop.

The frame A, is supported by the traction wheels *a*, which are mounted on axles C. The axle is provided with a collar *c*, having a serrated end E, with the teeth forming one member of a clutch. The movable member D, of the clutch is held normally in engagement with the collar by means of a spring F, which spring F, abuts a collar *f*, attached to the axle. The movable member D, of the clutch has a sprocket wheel G, connected with it in such manner as to rotate with the movable clutch member and the said sprocket wheel has a chain *g*, which is run over a sprocket wheel H, on the shaft *h*. The shaft *h*, is mounted in suitable bearings

I, on the frame and is provided with a gear wheel *i*, meshing with the gear wheel J, through which a second shaft K, is rotated. The shaft K, is provided with a sprocket wheel *k*, having a sprocket chain L, running to the upper end of the conveyer and said sprocket chain runs over a sprocket wheel *l*, mounted on a shaft M, journaled in the upper end of the conveyer frame N.

The conveyer frame comprises two side pieces connected by braces *n*, and said conveyer frame is also provided with notched bars O, extending parallel with the sides of the frame which are provided for the purpose of vibrating the conveyer P, as it travels over the said notched bars. The lower end of the conveyer frame forms journal bearings *o*, for the shaft Q, which shaft is provided with disks *q*, supporting the drum R. The conveyer P, is run over the drum R, at the lower end of the conveyer frame and over the shaft M, at the upper end of the conveyer frame and the said conveyer is driven through the power communicated to the shaft M. A scoop S is mounted on the lower end of the conveyer frame and a guard plate *s*, is secured to the bottom of the scoop and extends up over the surface of the drum. The upper end of the guard plate is free to permit the conveyer to run thereunder. Suitable beams T, have their ends connected to the shaft Q, and their outer ends supported by a link *t*, which is suspended from the lever U, pivoted to a frame at the point *u*, and extending rearwardly to the seat V, of the operator. The lever U, is held in adjusted position by the segmental rack W, and the dog *w*, carried by the lever; the said dog *w*, being under the control of the lever X. A cranked lever Y, is journaled in the frame and passes through the beams T. An operating handle *y*, is fixed to the cranked lever and said cranked lever may be partially rotated thereby for the purpose of lowering the scoop. A spring Z, is connected to the cranked lever and extends upwardly to the forward end of the frame where it is suitably anchored and said spring holds the scoop normally depressed. When the scoop is to be elevated, the operating handle *y*, is moved outwardly by the operator and the action of the cranked lever will be to elevate the scoop against the action of the spring and said scoop is held in its elevated position by a dog *y'*, engaging the teeth of the segmental rack *y*<sup>2</sup>.



From the foregoing description, it follows that the operator may control the depth of the excavation by adjusting the scoop in the manner stated and it also follows that when the lever  $y$ , is released, the tension of the spring will be sufficient to lower the scoop into contact with the ground. As the scoop excavates the potatoes with the accompanying earth, vines, and grass, they are delivered to the conveyer and as they travel with the conveyer up the conveyer frame, the movement of the conveyer over the notched bars will give a knocking action to the conveyer tending to shake the loose dirt through the meshes of the conveyer, thus delivering the potatoes clear of dirt to any suitable assorting mechanism or to a receptacle as may be desired.

I claim—

1. In a potato digger, a conveyer frame, a conveyer run therein, a shaft journaled at the lower end of the frame, a scoop at the lower end of the conveyer frame, beams connected to the shaft of the conveyer, a cranked lever on which the rear of the beam is supported, means for rocking the cranked lever, a frame for supporting the operative parts of the digger, and a spring connected to the rocking lever below its fulcrum and to the frame.

2. In a potato digger, a conveyer frame,

a conveyer run therein, a shaft journaled at the lower end of the frame, a scoop at the lower end of the conveyer frame, beams connected to the sides of the scoop, a cranked lever to which the rear of the beam is connected, a frame, means for rocking the cranked lever, a spring connected to the cranked lever below its fulcrum and having its opposite end anchored to the frame, the said spring operating to yieldingly hold the scoop in the ground.

3. In a potato digger, a conveyer frame, a conveyer run therein, a shaft journaled at the lower end of the frame, a scoop at the lower end of the conveyer frame, beams connected to the sides of the scoop, a cranked lever to which the rear of the beam is connected, a frame, means for rocking the cranked lever, a spring connected to the cranked lever, below its fulcrum and having its opposite end anchored to the frame, the said spring operating to yieldingly hold the scoop in the ground, and means for adjusting the forward end of the beam.

In testimony whereof I affix my signature in the presence of two witnesses this 29th day of February, 1908.

ROBERT W. MCKAY

Witnesses:

C. G. COPELAND,  
E. C. COPELAND.