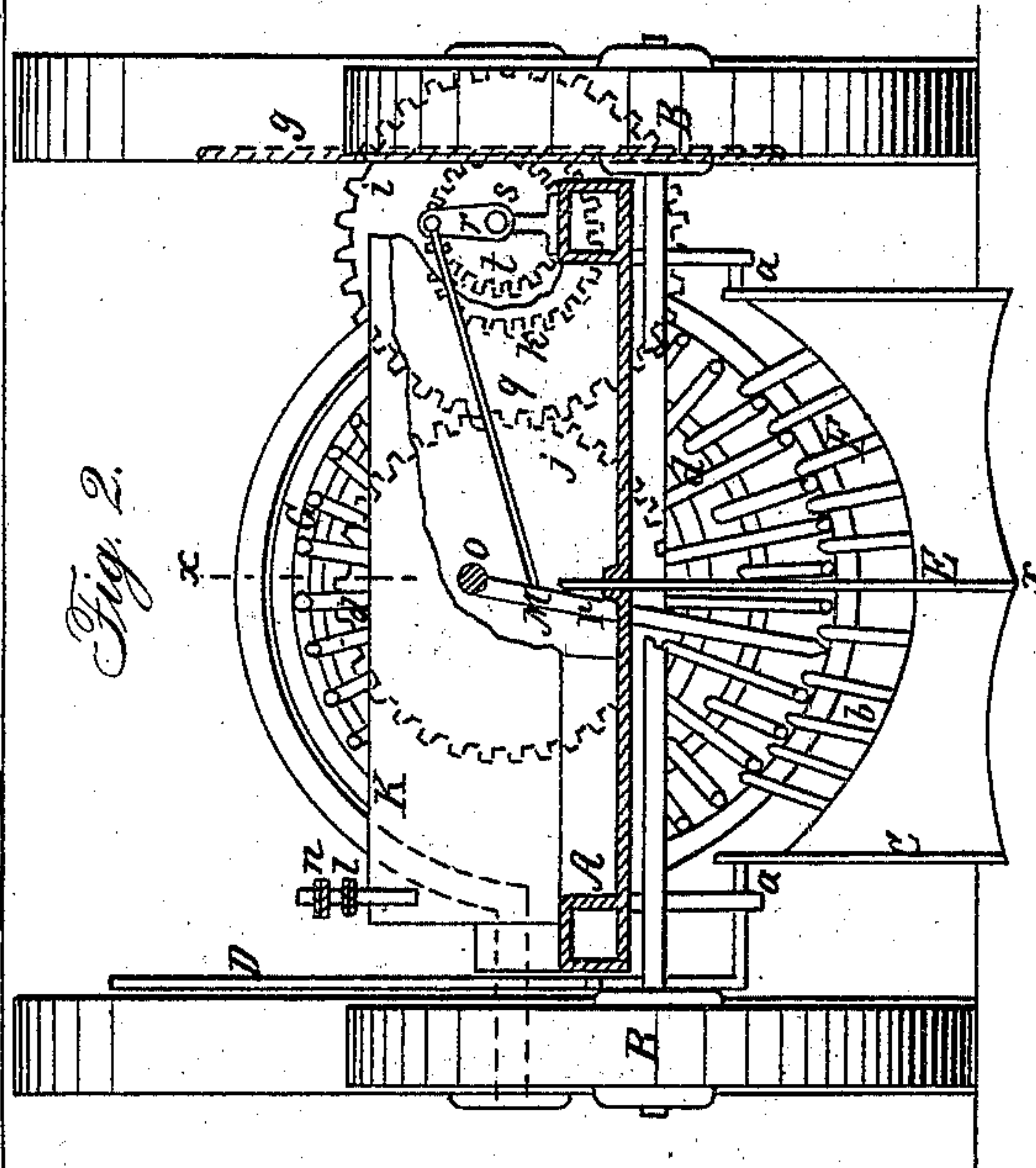
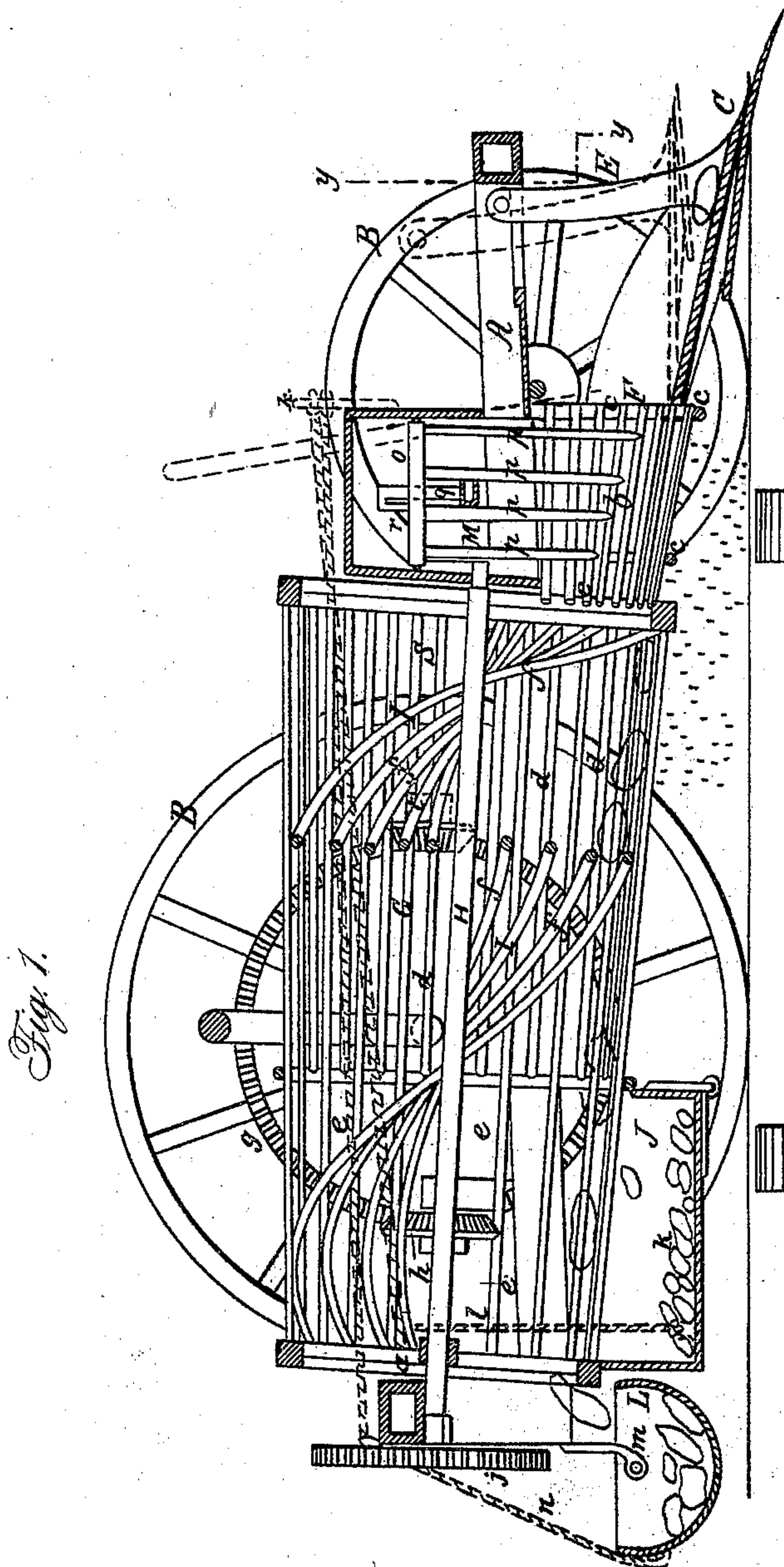


CONONVER & SPRING.

Potato-Digger.

No. { 1,179, }
{ 32,183. }

Patented Apr. 30, 1861.



Witnesses:

Minneapolis
E W Bowser

inventor:

Stephen H. Norover
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UNITED STATES PATENT OFFICE.

S. B. CONOVER AND MARSHALL SPRING, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR DIGGING POTATOES.

Specification forming part of Letters Patent No. 32,183, dated April 30, 1861.

To all whom it may concern:

Be it known that we, S. B. CONOVER and MARSHALL SPRING, both of the city, county, and State of New York, have invented a new and Improved Machine for Digging Potatoes; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of our invention, taken in the line *x x*, Fig. 2; Fig. 2, a front sectional view of same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a rectangular frame, which is mounted on four wheels, B, and has a scoop, C, attached to its front end. The scoop C is hung on centers or journals *a* at its back end, so that its front end may be raised and lowered, as desired, by means of a lever, D, or other suitable device. The scoop may be described as being of double form, with a central colter, E, attached, the lower cutting-edge of the scoop being of concave form at each side of the colter, as shown clearly in Fig. 2.

In the frame A, and directly back of the scoop C, there is secured a screen, F, which is a longitudinal half of a frustum of a cone. This screen may be formed by securing longitudinal wires or rods *b* to curved rods *c*.

In the frame A, and directly back of the stationary screen F, there is placed longitudinally a conical revolving screen, G, having an axis or shaft, H, the journals of which are fitted in suitable bearings. The periphery of screen G is formed of longitudinal rods *d*, and at the back part of the screen every alternate rod *d* is cut off to leave spaces *e* of sufficient width for small potatoes to pass through.

Within the screen G there is placed a spiral conveyer, I. This conveyer is made of wires or rods *f*, so as to form a screen, the wires or rods *f* being sufficiently close together to allow the earth to pass through, but not the potatoes. This spiral conveyer extends the whole length of screen G, as shown clearly in Fig. 1. The conveyer is permanently attached to the

screen G. The screen G is rotated from one of the back wheels of the machine by means of gears *g h i j*.

At the back part of the frame A, and directly underneath the spaces *e* of the screen G, there is placed a box or receptacle, J, which has a hinged bottom or trap, *k*. This bottom or trap may be retained in an upward or closed state by a chain or cord, *l*, which may be secured at the front part of the machine within reach of the driver on seat K. (See Fig. 1.)

At the back part of the frame A there is suspended on journals *m* a semi-cylindrical box or receptacle, L. This box or receptacle is just below the back end of the screen G, and a chain or cord, *n*, is attached thereto, said chain or cord extending to the front part of the machine, and, like cord *l*, secured within reach of the driver on seat K.

In the framing A, directly above the stationary screen F, there is placed a rock-shaft, *o*, which has pendent teeth *p* attached, said teeth extending down nearly to the rods *b* of screen F. The shaft *o* and teeth *p* form a swinging or reciprocating rake, M, which is operated by a connecting-rod, *q*, and crank *r*, the latter being on a shaft, *s*, which is rotated by gears *g t* from the wheel B, from which the rotating screen G is driven.

The operation is as follows: The machine is drawn along directly over the hills or drills, the scoop C extending down sufficiently to admit of its front edge passing beneath them. The colter E splits the hills or drills, and the earth and potatoes pass up the scoop into the stationary screen F, and are acted upon by the swinging rake M. This rake by its operation separates all weeds and tops from the potatoes, discharging the former at each side of the machine over the ends of the screen F. Some portion of earth will also escape through screen F. The potatoes and remaining portion of earth then pass into the revolving screen G, and the spiral conveyer I conducts the potatoes to the back end of said screen, the earth passing between the rods *d* thereof, and the conveyer I, in consequence of being formed of rods *f* at a suitable distance apart, allows the earth to pass through it, and not the potatoes, and therefore greatly facilitates the separation of the earth from the potatoes,

while a close conveyer would tend to retard such operation. The small potatoes pass through the spaces *e* at the back end of the screen *G* and drop into the box or receptacle *J*, while the large potatoes are discharged at the back end of screen *G* and fall into receptacle *L*, the contents of the receptacles *J* *L* being discharged from time to time by operating cords *l* *n*, the former admitting the bottom *k* of box *J* to drop and the latter turning or tilting the receptacle *L*. The double scoop *C* causes the potatoes, earth, and all weeds or trash to pass into the rotating screen *F* in a somewhat divided state, and one more favorable to be efficiently acted upon by the rake *M*.

We do not claim broadly the employment or use of a revolving screen with a spiral conveyer, irrespective of the arrangement herein shown and described; but

We do claim as new and desire to secure by Letters Patent—

1. The swinging rake *M* and stationary screen *F*, when arranged with the revolving screen *G* to operate as and for the purpose described.

2. The combination of the two potato receptacles *J* *L*, arranged relatively with the rotating screen *G* to receive respectively the large and small potatoes, and admit of the same being discharged in separate heaps or piles on the ground, substantially as described.

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Witnesses:

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