

D. SMITH.  
Potato-Digger.

No. 220,096.

Patented Sept. 30, 1879.

Fig. 1.

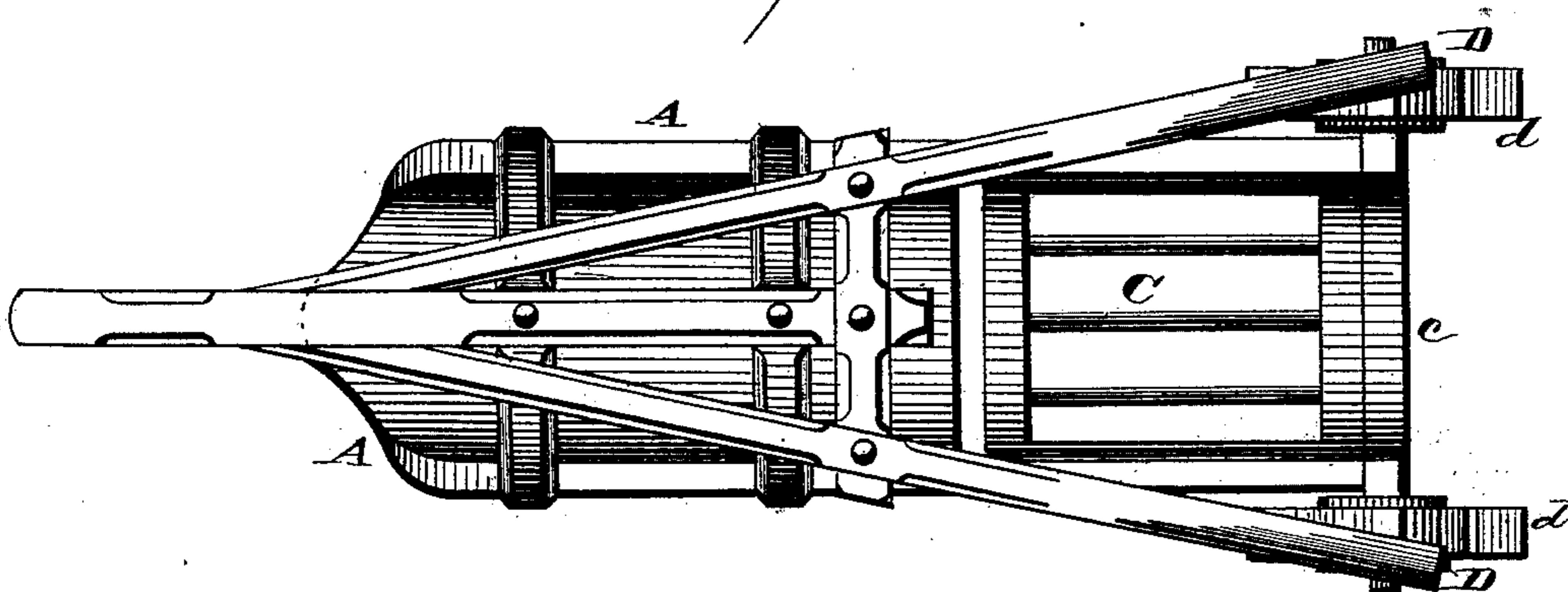
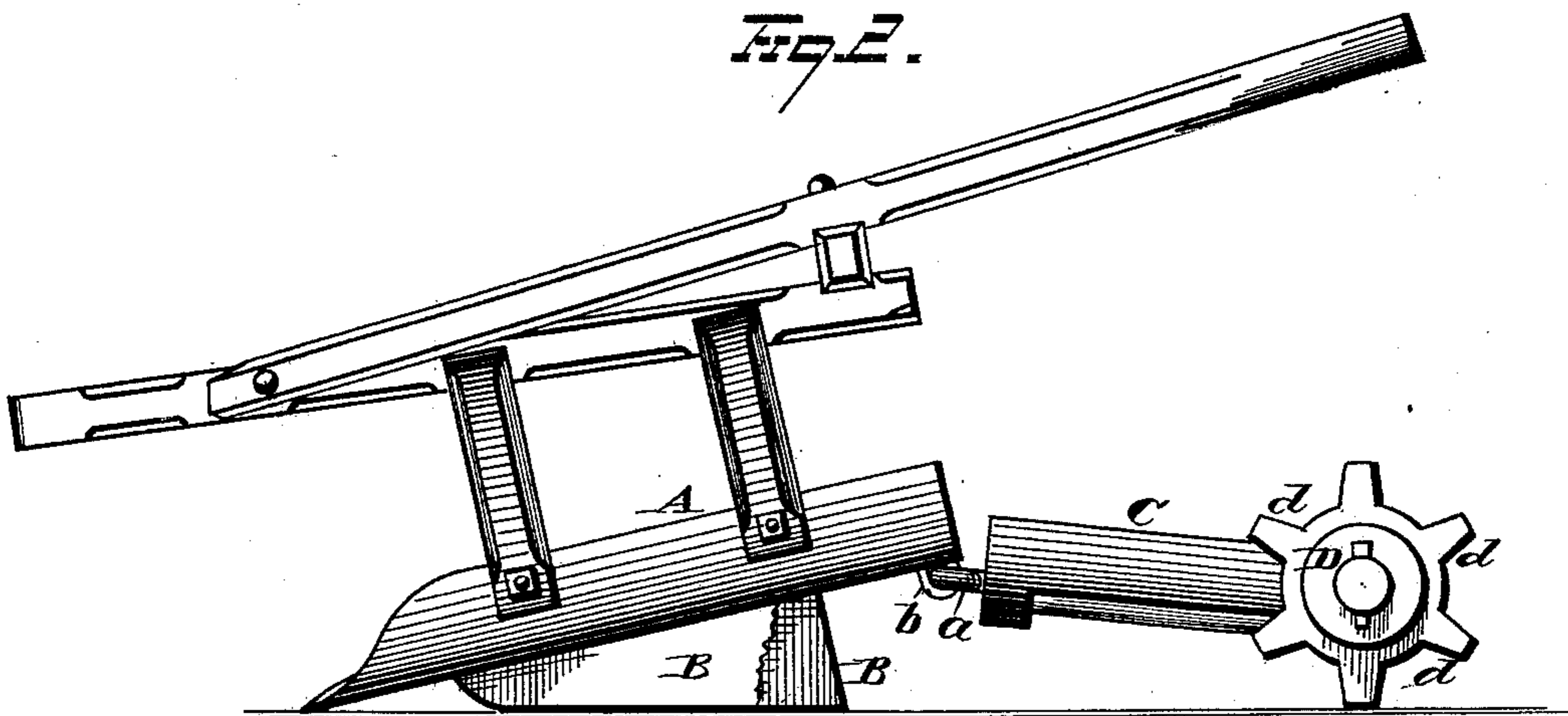


Fig. 2.



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# UNITED STATES PATENT OFFICE.

DAVID SMITH, OF JAMESTOWN, NEW YORK.

## IMPROVEMENT IN POTATO-DIGGERS.

Specification forming part of Letters Patent No. **220,096**, dated September 30, 1879; application filed April 4, 1879.

*To all whom it may concern:*

Be it known that I, DAVID SMITH, of Jamestown, in the county of Chautauqua and State of New York, 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 a part of this specification.

My invention relates to certain improvements in potato-diggers; and is designed to provide a construction which will permit a vertically-reciprocating sifter to be operated by having a rear axle, provided with ground-wheels having radial projections on their treads.

Heretofore sifters which have been loosely connected at their forward extremity to a digging-share, and adapted to have vibrating movement in a vertical plane, have been operated by contact of a wheel against their under surface, said wheel being journaled on a rigid extension projecting rearwardly from the share, and having its periphery made in any desired form, so as to provide radial or cam projections which strike against the under surface of the sifter.

In addition to such a construction, sifters have been made consisting of rods whose forward ends are fastened in holes formed in the digging-share, and whose rear extremities are secured to a transverse axle provided with ground-wheels, made as oblong cams, the construction being such that when one cam-wheel had its greatest diameter in a vertical line the other cam-wheel would have its greatest diameter in a horizontal line, the operation causing a lateral rocking movement, and not susceptible of a longitudinal vibrating movement in a vertical plane.

My invention consists of a sifter whose forward extremity is loosely connected to the digging-share, and whose rear extremity is provided with a bent axle, upon which are journaled ground-wheels whose treads are made with radial projections, said axle having its main longitudinal portion depressed and conformed to the transverse curved surface of the sifter.

In the drawings, Figure 1 is a plan view of the potato-digger. Fig. 2 is a view, in side elevation, of the same.

The digging-share A is provided with the two inclined runners B, which raise the rear portion of the same well up above the working-point of the share, and cause the latter to be in horizontal inclination, as shown. To the elevated rear extremity of this share the sifter C is connected by staples *a*, horizontally secured to the forward portion of the sifter, and engaging with vertical eyes *b*, which latter depend from the under side of the corresponding portion of the share.

This manner of connection permits the sifter to be freely raised and lowered in pivotal movement upon said connecting mechanism.

The rear portion of the sifter is supported upon a bent axle, *c*, which has its journal-bearings formed in a horizontal plane above its main or central portion; which latter is depressed and made concave, corresponding to the transverse form of the sifter.

This construction of the axle causes the latter to be flush with the upper surface of the sifter, and to constitute a rear extension to its working-face.

In order to produce a vertical reciprocating movement of the sifter by the passage of its bearing-wheels over the ground, and at the same time preserve its normal position, so that one of its longitudinal sides may not be elevated while the other side is lowered, I make the said wheels D with radial projections *d*. These projections, formed, respectively, at right angles to the periphery or tread of their corresponding wheels, cause the latter to impart a rising and falling movement simultaneously to both sides of the rear portion of the sifter.

In thus describing my invention I have restricted myself to the description of parts forming the same, and have made no reference to the connecting parts of the same, not constituting a material part of the same. It will, however, be understood that said parts not specifically described may be of any suitable construction or material; that any desired inclination may be given to the digging-share, and the latter, together with the sifter, may be made in any suitable form of any desired substance.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a potato-digger, the sifter C, whose forward extremity is loosely connected to the digging-share A, and whose rear extremity is provided with the bent axle c, upon which are journaled the wheels D, whose treads are made with the radial projections, said axle having its main longitudinal portion depressed and

conformed to the transverse curved surface of the sifter, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 25th day of March, 1879.

DAVID SMITH. [L. S.]

Witnesses:

FRANK E. SIMONS,  
A. M. SMITH.