# S. S. Curtis.

## Scraper.

No. 22,279. Patented Dec. 14, 1858.

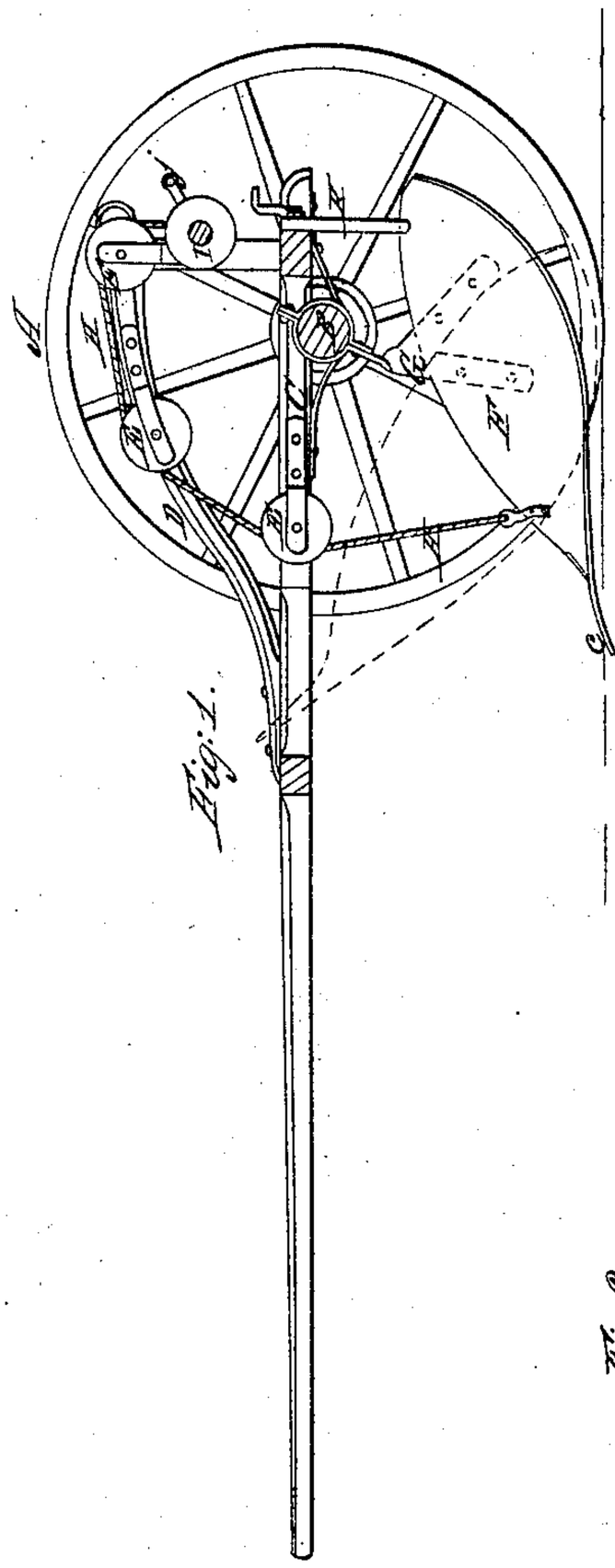

Fig. 1.

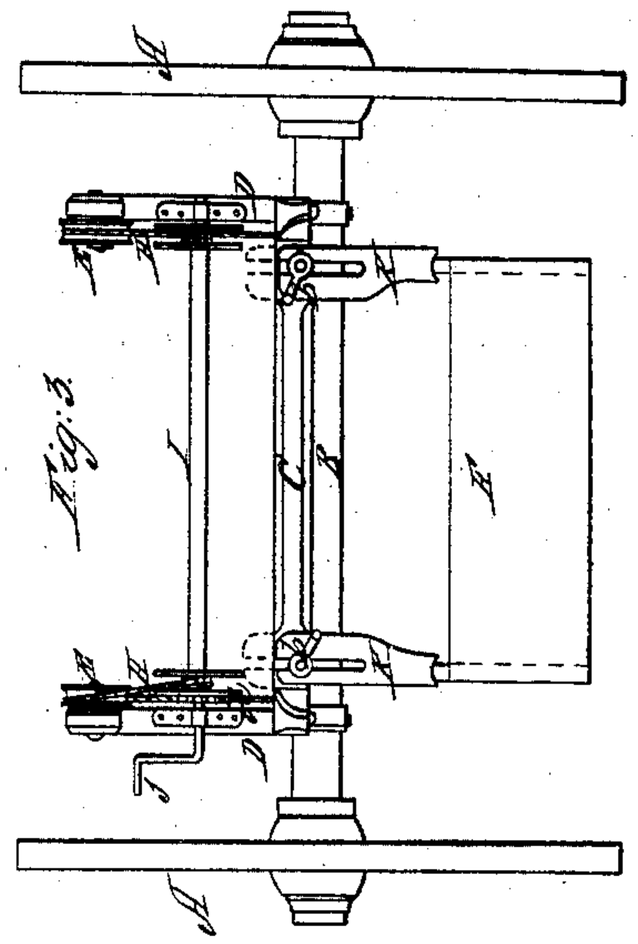

Fig. 3.

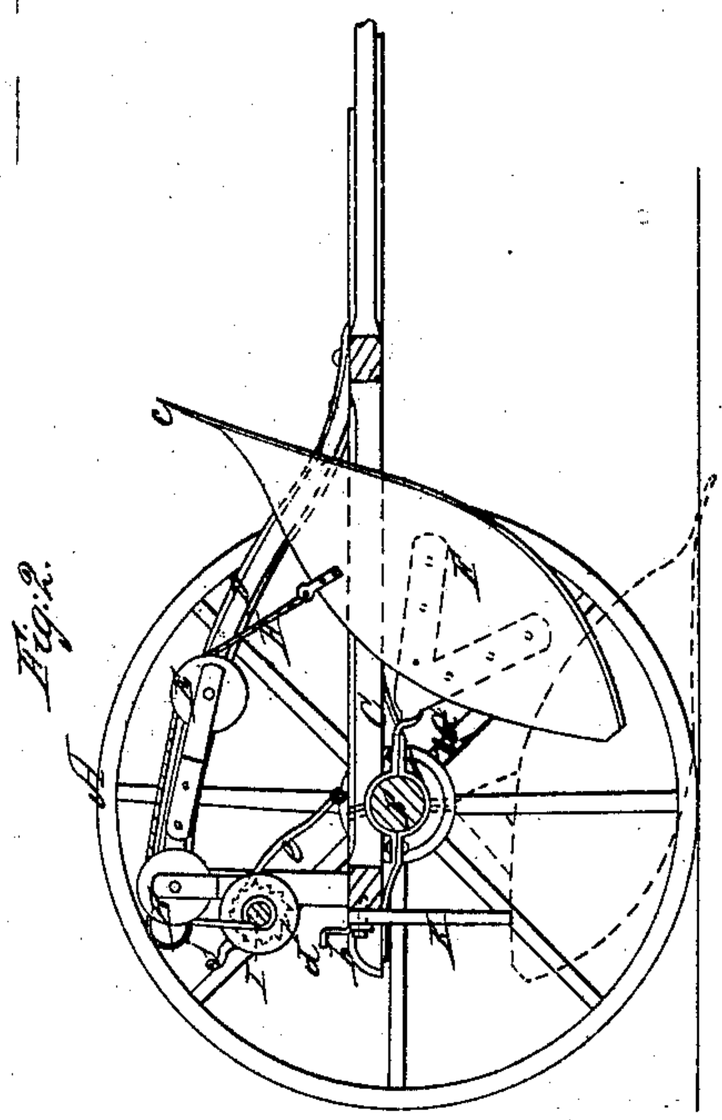

Fig. 2.

# UNITED STATES PATENT OFFICE.

S. S. CURTIS, OF CROTON CORNERS, NEW YORK.

## IMPROVEMENT IN EXCAVATORS.

Specification forming part of Letters Patent No. **22,279**, dated December 14, 1858.

*To all whom it may concern:*

Be it known that I, S. S. CURTIS, of Croton Corners, in the county of Chemung and State of New York, have invented a new and Improved Mode of Constructing Excavators; and I do hereby declare the following to be a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon.

Figure 1 is a vertical section of my machine. Fig. 2 is the same in a reverse position. Fig. 3 is a rear elevation.

The same letters indicate corresponding parts in each of the figures.

A is one of the wheels of the truck or cart, of which B is the axle. A frame C is attached to the axle, having parts D D, which support the friction-pulleys E. The scoop F is attached to the axle B by the branching strap G, which encircles and turns upon it. A chain H is connected with the forward part of the scoop on each side, which passes over the pulleys E E and is wound up around the crank-shaft I.

To the transverse piece of the frame C in the rear of the axle are attached two vertical slotted braces or stay-pieces K K, the lower ends of which bear on the top of the latter end of the scoop, and serve, in connection with the suspension bearings on the axle and the pulley-frame, to hold it firmly to its place and resist its tendency to swing backward or yield as the point enters the ground. It also answers as a gage to the depth of its working, for by untightening the screw-bolts *b b* and turning the small crank attached to them they can be raised or lowered. By raising them the point *c* will drop lower, and thus take a greater portion of the earth in its operation, and by lowering them the opposite result is obtained, giving a shallow cut. The mode of operating it is as follows: In loading the crank *j* is turned to unwind the chain until the point of the scoop descends so low that the rear end strikes the stays K, when it occupies the position shown in Fig. 1. When filled, the crank is turned to wind up the chain until the scoop assumes a horizontal position, when it clears the surface of the ground, hanging chiefly by the axle B, and the load is driven off on the truck-wheels. At the place of unloading the crank-shaft is still further wound up until the forward part of the scoop is elevated, as seen in Fig. 2, sufficiently to discharge the contents in the rear, which is done either at once in a pile or gradually distributed, if for grading, at the will of the operator, without stopping the team. A ratchet-wheel *d* and latch *e* on the crank-shaft I serve to hold the scoop in any required position.

The scoop is hung eccentric to its bearing on the shaft and by means of the forward support of the chains H and the resistance of the stay-braces K the strain is distributed throughout the carriage, relieving the axle and obviating its liability to break.

If preferred, for the convenience of the driver the supporting-frame for the chains and pulleys may be placed farther forward to enable him to operate the crank from the side.

Two pairs of trucks or an ordinary four-wheeled wagon may be employed to work two of the excavating-scoops at the same time. This is effected by extending the frame C over the forward axle and connecting with it another supporting-frame, pulleys, and crank-shaft. The forward scoop would be first filled and wound up to clear the ground when the other would receive its load.

I do not claim the employment of chains and pulleys for suspending the scoop or for raising it for the purpose of transporting or tilting and discharging the same; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the eccentric-scoop F with the adjustable gage-stops and braces K K or their equivalents, arranged and operating substantially in the manner and for the purpose set forth.

S. S. CURTIS.

Witnesses:
T. V. WELLAR,
WM. P. ANDRUS.