J. Sweet.

Excavating Scraper.

No. 7,252. Patented Apr. 2, 1850.

Fig. 1.

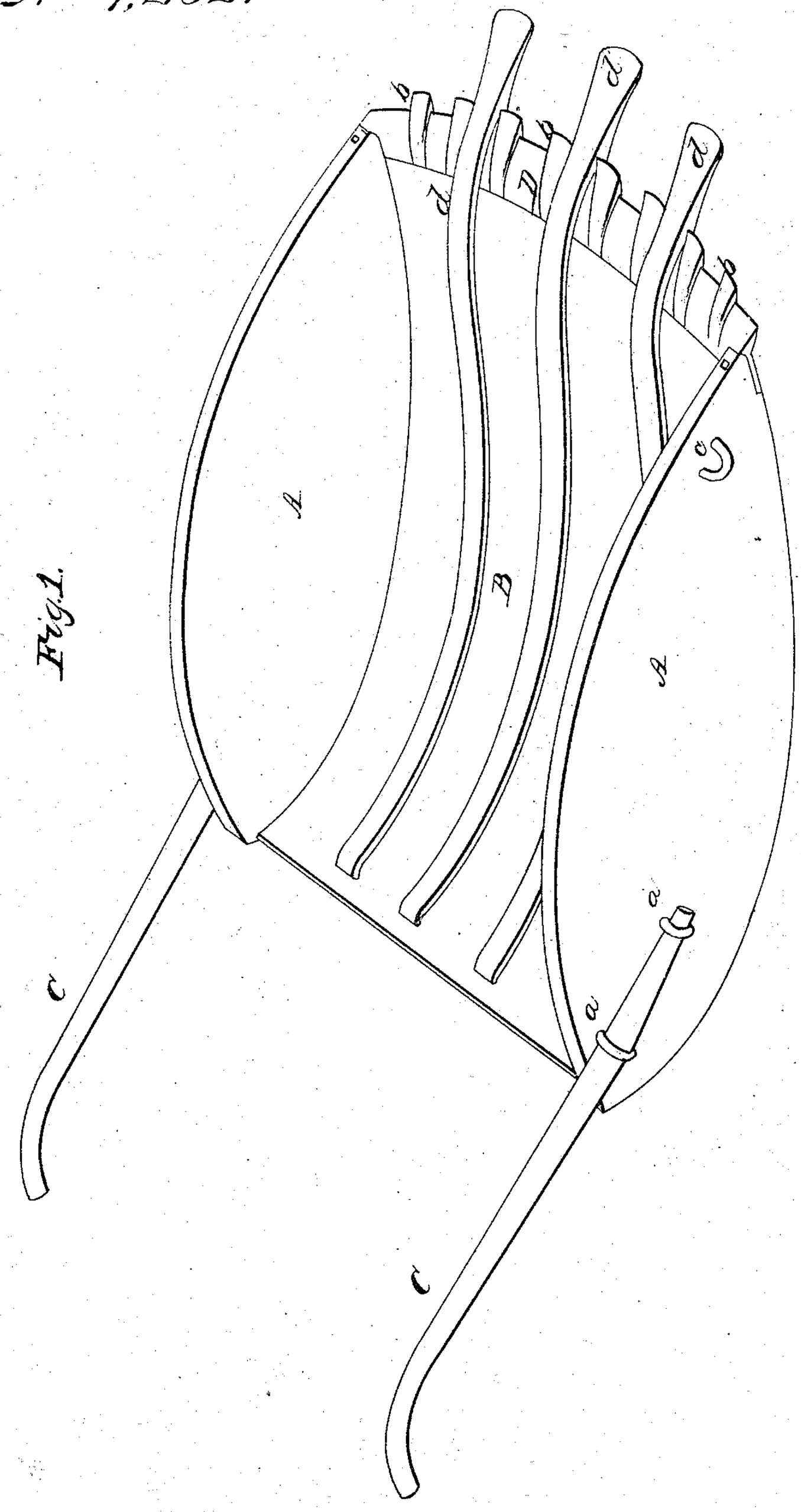
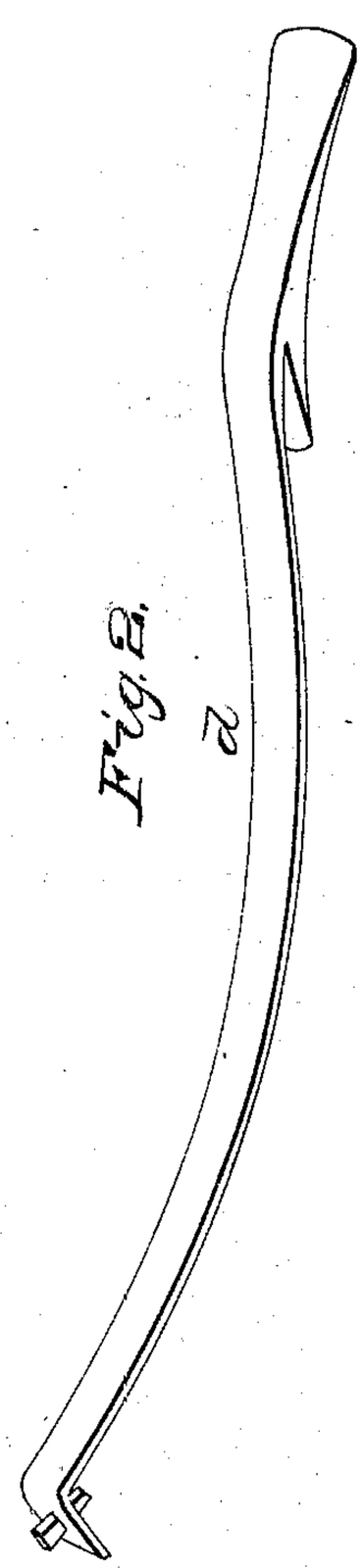


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOSEPH SWEET, OF HUGHESVILLE, PENNSYLVANIA.

REMOVABLE TOOTH FOR SCRAPERS.

Specification of Letters Patent No. 7,252, dated April 2, 1850.

To all whom it may concern:

Be it known that I, JOSEPH SWEET, of Hughesville, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Excavating-Scrapers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 represents a view in perspective of my machine; and Fig. 2 a similar view of one of the supplementary chisel edged teeth detached therefrom.

The excavator is represented in the annexed drawing as formed of two side pieces, A, A, of cast iron united by a wooden bottom B and tie bolts; loops *a a* are cast on the hinder extremities of these side pieces, through which the handles, C, by which the machine is directed, are inserted. To the front ends of these side pieces, a dishing lip D, also of cast iron, is riveted or bolted; this lip is concave, that is it bends downward from the sides to the center, and its front edge is convex or bulging. Short teeth *b*, *b*, are cast fast to the lip; these have a chisel edge and shanks tapering backward until they meet the body of the lip, so that any stone which passes between their edges will freely pass between their shanks. The toothed dishing lip thus described is sufficient to penetrate soils which are neither excessively strong nor very firmly packed. To enable the machine to penetrate coarse gravel, hard-pan, or soils of similar character, it is provided with a set of large removable supplementary teeth, *d*, *d*, *d*, which projects some distance beyond the smaller teeth. These as represented at Fig. 2 are also made with a chisel edge and a shank tapering backward to the lip where it is forked to embrace the cutting edge and hold it firm at that point; the upper member of the forked shank is prolonged backward, and its hinder extremity is passed through the hinder part of the bottom and secured in position by a key passed through it. These teeth readily penetrate coarse gravel thus enabling the scraper to load itself readily therewith which is almost if not quite impossible with the ordinary smooth or toothed scrapers.

In using this excavator the team is hitched to the middle of a chain whose extremities are attached by two loops *c*, cast to the front extremities of the opposite sides, and a stretcher as wide as the lip, is inserted between the two portions of the chain thus keeping them out of the way of the teeth. The hinder extremity of the excavator is then raised by the handles, and canted sideways to work the edges of the teeth into the soil. The tapering form of the shanks of the duck-bill teeth allows any stone which can pass between their edges, to pass easily between their shanks, so that all clogging or choking is avoided, and the teeth are always free to act upon the soil.

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

Securing the removable teeth to any common scraper in the manner herein set forth, so that they can be attached and detached at pleasure; whereby the same scraper is adapted to ordinary earth excavation, or to the excavation of gravel or cobble stones as described.

In testimony that the foregoing is a correct specification of my said improvement I have hereunto signed my name before two witnesses.

JOSEPH SWEET.

Witnesses:
P. H. WATSON,
E. P. RENWICK.