S. BRADLEY.

Ore-Jiggers.

No. 199,502. Patented Jan. 22, 1878.

Fig. 1.

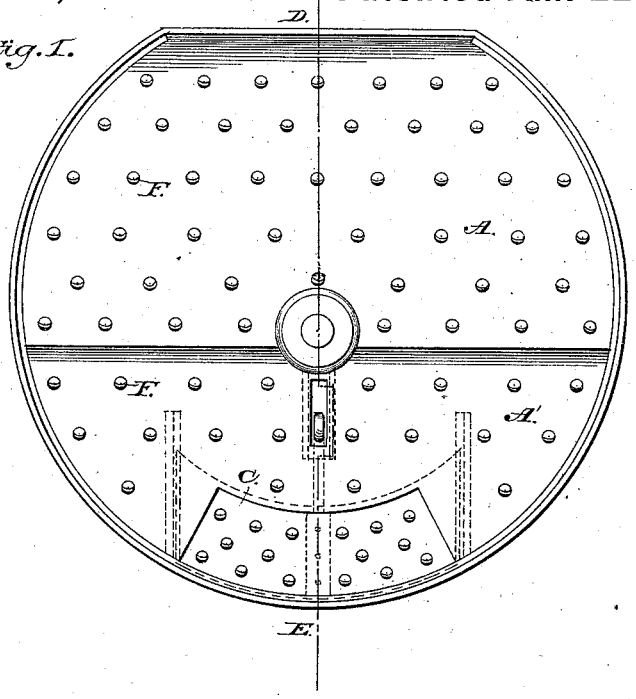
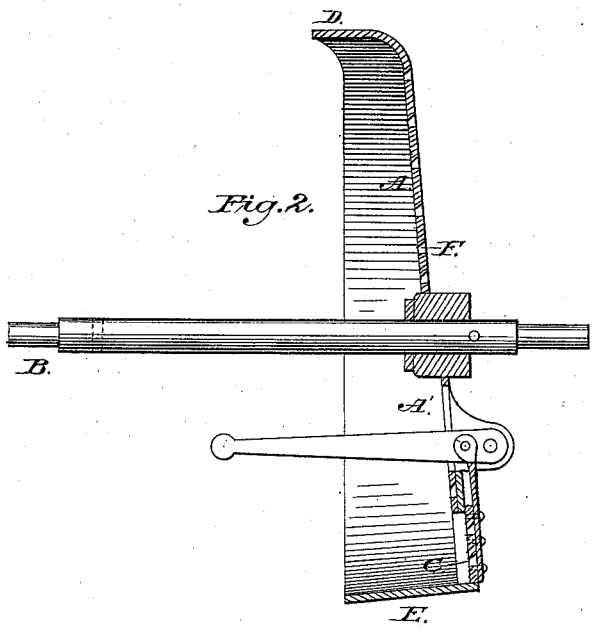


Fig. 2.



Attest:

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Inventor:

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UNITED STATES PATENT OFFICE.

SAMUEL BRADLEY, OF MAUCH CHUNK, PENNSYLVANIA.

IMPROVEMENT IN ORE-JIGGERS.

Specification forming part of Letters Patent No. **199,502**, dated January 22, 1878; application filed September 26, 1877.

To all whom it may concern:

Be it known that I, SAMUEL BRADLEY, of Mauch Chunk, in the county of Carbon and State of Pennsylvania, have invented certain new and useful Improvements in Coal and Ore Jigs and Separators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Heretofore in separating the slate from the coal there never has been any difficulty in maintaining a bed of the heavier slate; but the trouble has been, with all the machines yet invented, that they cannot concentrate and collect the slate in the right place, so as to discharge the bed of slate as it accumulates (whether faster or slower) without coal being mingled with it when passing through the valve or gate. There is consequently a loss of coal.

The object of my invention is the construction of a receptacle for separating the slate from anthracite coal, and the heavier substance from iron ore, which will collect the heavier material at one and the right place, where the valve or slide-gate is fixed. My idea is to concentrate the slate, &c., as near as possible over one point, and to have more depth of it there, so that the bottom of it can be discharged from the bed or pile, according as it accumulates. This will prevent the coal from mingling with the slate, as the bed of slate gathered at one point will be too thick for the coal to mix therewith.

My object is also to prepare a separator for convenience, and cheapness, and simplicity, that good and clean work may be done rapidly.

My object is also to construct a machine that will do good work when it is old and worn, as well as when it is new. This I accomplish in the features of the receptacle, in combination with the valve or slide-gate C and spindle B, as is more fully hereinafter explained.

The receptacle consists of a box or tub of the form of a greater segment of a circle, and provided at the line of section of the circle with the straight vertical flange D, with the bottom A, commencing at flange D, pitching downward toward the center, where it meets the other part of the bottom, A′, one step lower, also pitching the same way, similar to a shovel, toward the round or other side E of the receptacle.

The bottom A A′ may be all one, and pitch in a continuous and unbroken line, making the receptacle get deeper in shovel form, while the top of it is left level, for a perfect discharge of coal.

The inclination of these bottoms A A′ are just pitch enough to allow the slate to reach the slide-gate or valve C, while the coal is distributed along and around the rim, to be discharged there. The lower bottom farthest from where the coal is filled in, A′, is formed like a shovel—that is, it pitches with a concave to where the slide-gate or valve C is fixed—that the slate may gather easily there to be discharged. The receptacle, by the inclination of the bottoms A A′, gets gradually deeper in only one direction as it approaches the coal and slate discharges.

The object of the flange D is to shorten and lessen the depth of the tank, and to prevent the receptacle from a circular swinging vibratory motion, and also for filling and starting the coal rapidly, that it will not pile up, but be delivered as fast or slow as it comes in.

The object of constructing the valve or slide-gate C as it is, is to have its capacity for discharging in one and the smallest place possible, where the slate-bed has the most depth and least surface, which will prevent the mingling of the coal with the slate. Also, my object is to have the slate gate or valve C to slide in closing and opening, that it may be adjusted with a lever in the simplest way possible, and independent of any connection with the spindle for operating.

The object of keeping the spindle independent and free from slide-gate or valve C and the other fixtures is, that it can be fastened to the receptacle out of center, that the weight of coal may be equally distributed around the spindle to prevent friction; also, that there may be less hinderances to the free passage of coal, and that the reciprocating

vertical motion can be fixed in the most simple and durable and cheap manner possible; and instead of having the holes F in the bottom, or perforations tapering regularly, as is the case in all other machines, I taper them all one-sided—that is, one side of the hole is vertical, gradually leaning on the other side, (a leaning tapering hole,) tapering upwardly, and leaning toward the deepest side of the receptacle E. The object of this is that the jets of water will help carry or forward the coal in the receptacle toward the places for discharging the coal and slate. This increases the capacity of the machine to a greater extent.

The receptacle works under water in an ordinary tank, with the ordinary reciprocating and rotary motion, and the tank is partitioned to separate the slate from the coal, and from whence the coal is carried out and discharged into a chute leading to the car or pocket provided for that purpose.

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

1. The revolving separating receptacle, having an inclined floor or bottom, with the discharge-opening for the slate at the lowest point, substantially as described.

2. A receptacle for coal and slate separating-machines, composed of a box or tub of the form of a greater segment of a circle, and provided at the line of section of the circle with the straight vertical flange D and with bottom A A′, substantially as shown.

3. The combination of the receptacle, being in form the greater part of a segment of a circle, and having the flanges D and E and floor or bottom A A′, and of the valve or slide-gate C, as described.

In testimony that I claim the foregoing as my own I affix my signature in the presence of two witnesses.

SAMUEL BRADLEY.

Witnesses:
ALLEN CRAIG,
F. BERTOLETTE.