A. Buffum.

Ore Crusher.

No. 12,191. Patented Jan. 9, 1855.

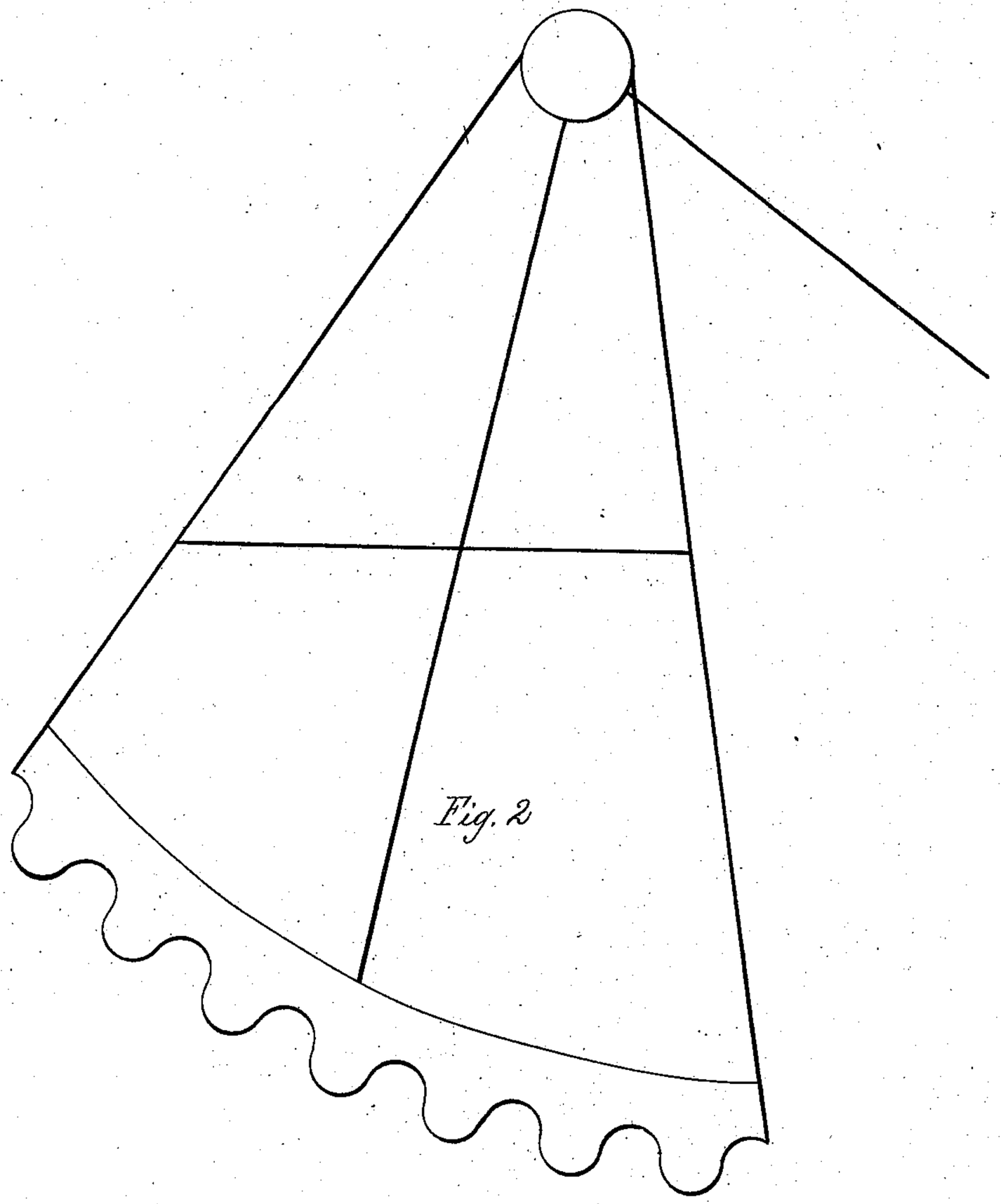

Fig. 2

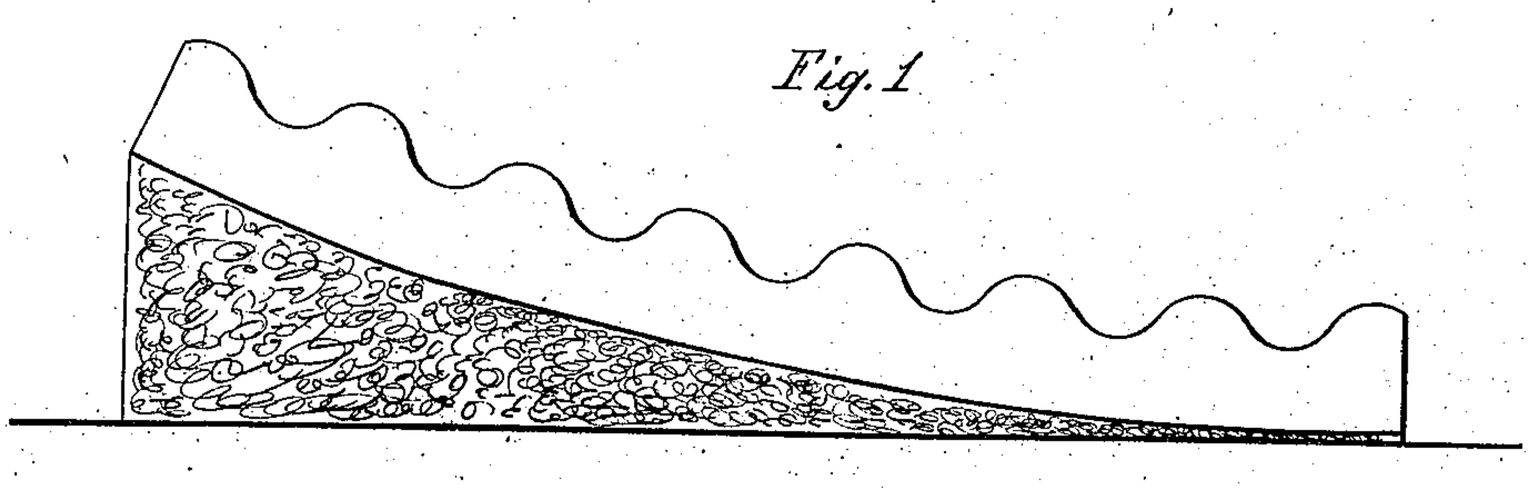

Fig. 1

UNITED STATES PATENT OFFICE.

ARNOLD BUFFUM, OF PERTH AMBOY, NEW JERSEY.

MACHINE FOR CRUSHING OR PULVERIZING ORES.

Specification of Letters Patent No. 12,191, dated January 9, 1855.

To all whom it may concern:

Be it known that I, ARNOLD BUFFUM, of Perth Amboy, Middlesex county, and State of New Jersey, have invented a new and Improved Combination of a Corrugated Bed-Plate with a Correspondingly-Corrugated Rocking Ore-Crusher, which combination is called "Buffum's Progressive Ore-Pulverizer;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

The nature of my invention consists in constructing the upper surface of the bed plate in corrugated form, and in combining therewith a correspondingly corrugated rocking crusher for crushing and pulverizing auriferous ores and other substances.

I construct my bed plate, say nine feet long, and two feed wide, longitudinally curved upward, so as to represent one-fourteenth part of a circle of one hundred and twenty-six feet in circumference; it is then placed in a position which gives an elevation to one end of the bed plate, of about two feet higher than the other end, giving it the position of a hollow, curved, inclined plane. The upper surface of the bed plate is grooved crosswise, having semi-circular projections rising four inches (more or less) between the grooves. Side plates are attached to the bed plate rising a few inches higher than the projections between the grooves, to prevent the escape of whatever may be passing from the upper to the lower end of the bed plate.

The rocking crusher, corresponding in length and width with the bed plate, has its lower surface so rounded longitudinally, as to represent one-seventh part of a circle of sixy-three feet in circumference, which gives it so much of a circular form, that it rocks in the crevice of the bed plate. The rocker has projections crossing its lower surface, corresponding in length and thickness with the grooves on the upper surface of the bed plate, but of so much greater depth, that they operate with equal efficiency after considerable wearing away. When the rocket is placed upon the bed plate, the projections on the lower surface of the rocker go down into the grooves in the bed plate, similar to the fitting of gears on gear wheels. The rocker is so constructed, as to be loaded with any amount of rocks or weights, that may be required to give it force and efficiency in its operation.

In practical operation, a rod is connected with the rocker, and by the application of power through a crank or any arrangement which will give to the rod a reciprocating motion the rocker is rocked in the curve of the bed plate; this rocking motion raises the whole weight of the rocker with all its load off from what lays in one groove in the bed plate, and brings the next projection on the rocker, to strike with breaking power, to press with crushing force, and to rub with pulverizing efficacy, upon whatever lays in the next groove in the bed plate.

The ore is fed into the elevated end of the bed plate, accompanied by a stream of water, the inclined position of the bed plate, in combination with the action of the rocker, and the passing current of water, causes the ore as it becomes crushed and pulverized to pass toward the discharge opening at the lower end of the bed plate.

In all the arrangements where the newly fed coarse lums of ore are promiscuously scattered throughout the whole operation, they present a great obstruction to a perfect pulverization. By this arrangement, for feeding the ore in at one end, and passing it progressively to the other end, I avoid that obstruction, and thus secure a progressive and more perfect pulverization.

In the drawings Figure 1 represents a side view of the bed plate with the side plate removed, showing its curved front, its inclined position, and its corrugations or grooves. Fig. 2 represents a similar view of the rocker, with its projections, and its circular form adapted to rocking in the curve of the bed plate.

The size and proportion admit of a variety of modifications.

I do not claim to be the exclusive inventor of corrugations in machines for pulverizing ores. Neither do I claim to be the exclusice inventor of an arrangement for a progressive pulverization of ores. Neither do I seek by this patent to secure the applica-

tion of the rocking action, independent of its combinations, but

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

The rocking action of the crusher, in combination with corrugations on the lower surface of the rocker, and corresponding corrugations on the upper surface of the bed plate, for the purpose, and substantially as described in this specification.

Perth Amboy, New Jersey, 15 Dec., 1854.

ARNOLD BUFFUM.

Witnesses:

CLEMENT O. READ,

HENRY C. HOWELLS.