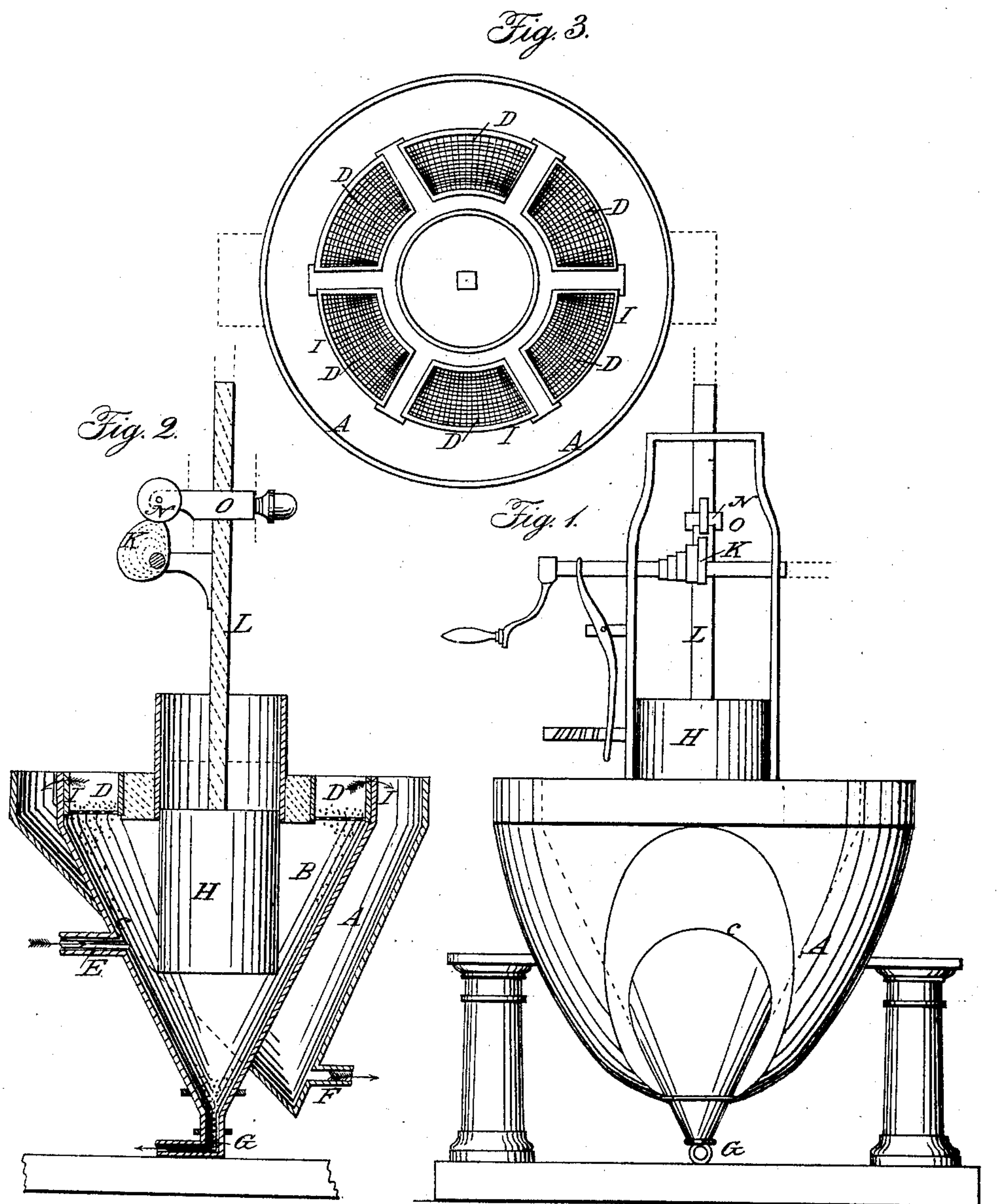


E. BORLASE.

Ore Jigger.

No. 17,721.

Patented July 7, 1857.



UNITED STATES PATENT OFFICE.

EDWARD BORLASE, OF BRISTOL, CONNECTICUT.

METAL-SEPARATOR.

Specification of Letters Patent No. 17,721, dated July 7, 1857.

To all whom it may concern:

Be it known that I, EDWARD BORLASE, of the town of Bristol, county of Hartford, and State of Connecticut, have invented a new and useful Improvement in the Mode of Constructing Metal-Separators; and I do hereby declare that the following is a correct description thereof, reference also being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in the arrangement and combination of a series of sieves, with two conical shaped reservoirs and differential operating cams.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The drawing: Figure 1, a view of the machine; Fig 2, a section through the center; Fig 3, a plan of the upper surface.

The outer conical reservoir A I construct of cast-iron of the necessary dimensions of the form as described in the drawing. The inner conical reservoir B is the same. The two are connected together at C. On the top of the inner cone B I form a series of compartments to receive the sieves D. These sieves are fitted into the compartments and are stationary while in operation, but are movable when required for emptying. All the sieves or only one or two or more may be used at one time as circumstances may require, or the quantity of ore to be operated on. Those not in use may be made blank by placing a close cover over the bottom or removing the sieve and put the cover in the opening.

The feed pipe E is to admit the water into the inner cone. The exit pipe F allows the waste water and refuse substances to pass out. The pipe G allows the exit of the metal after being separated.

H is the piston plunger to agitate the

water forcing the same up through the bottoms of the sieves, causing the crushed and pulverized ore with metal in it and other substances to be forcibly agitated, causing a continual friction of the mass, the metallic portion by its own gravity, separating and falling to the bottom of the sieves, and passing through the meshes thereof into the inner cone to be discharged through the outlet pipe G. At the same time the waste water and light substances are forced over and through the openings I in the sides of the sieves and fall into the outer cone to be carried off by the exit pipe F.

The different size cones K on the shaft L are for the purpose of giving more or less force to the agitating piston and plunger by shifting of the shaft, regulated and retained by the lever M.

The friction wheel N is to give a free action to the cams, and the adjustable arm O on the piston rod is to raise or lower the plunger to accommodate the quantity of water in the reservoir or give a different impulse to the same.

To operate this machine a stream of water is let into the inner reservoir through the feed pipe E, filling the same, to be agitated by the action of the plunger H the sieves at the same time being supplied with the pulverized ore, the whole to be actuated by a crank or other suitable power.

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

The use of conical reservoirs A and B constructed as described, when arranged in connection with the sieves D, and the whole operated in the manner specified.

EDWARD BORLASE.

Witnesses:

WM. VINE,
JOHN BLAKLEY.