No. 738,331. PATENTED SEPT. 8, 1903.

C. F. LANCASTER.

ORE SEPARATOR.

APPLICATION FILED OCT. 20, 1902.

NO MODEL.

Fig. 1.

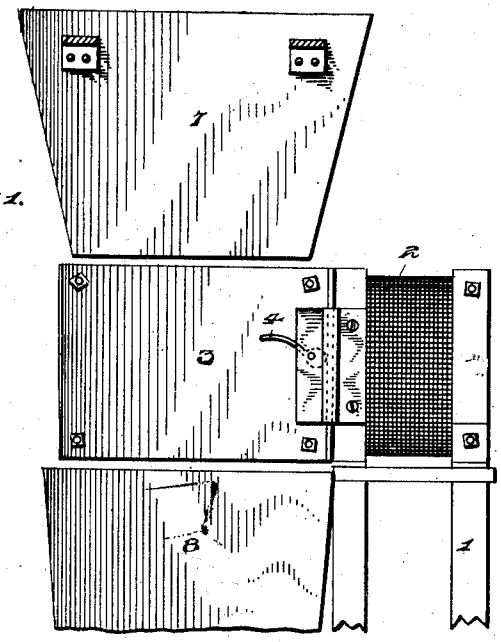


Fig. 3.

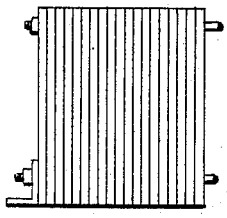


Fig. 2.

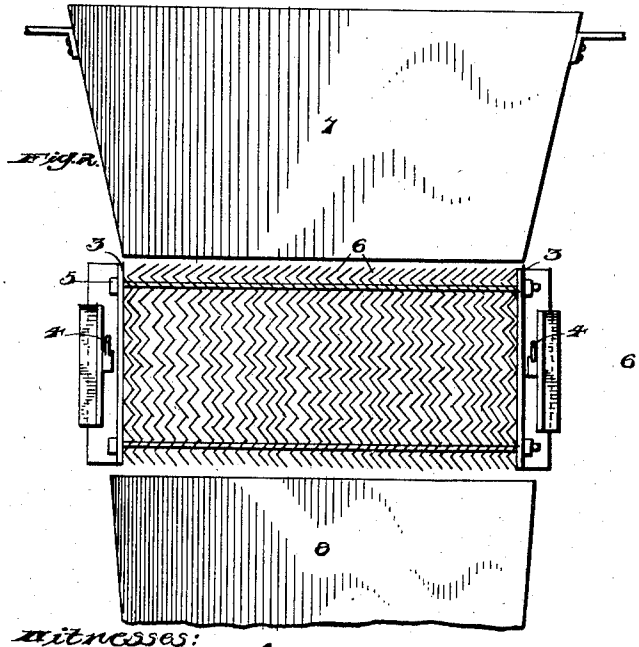
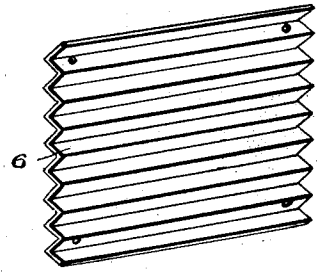


Fig. 4.



Witnesses:
J. B. Hopkins
J. B. Lewis

C. F. Lancaster Inventor
By
O. D. Lewis
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 738,331. Patented September 8, 1903.

UNITED STATES PATENT OFFICE.

CONRAD F. LANCASTER, OF EAST LIVERPOOL, OHIO.

ORE-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 738,331, dated September 8, 1903.

Application filed October 20, 1902. Serial No. 127,953. (No model.)

To all whom it may concern:

Be it known that I, CONRAD F. LANCASTER, a citizen of the United States, residing at East Liverpool, in the county of Columbiana and State of Ohio, have invented a new and useful Improvement in Ore-Separators, of which improvement the following is a specification.

My invention relates to ore-separators; and its object is to provide a novel form of ore-separator that will be especially adapted to remove the iron from fire-clay.

My invention consists of certain novel forms and constructions hereinafter fully shown and described.

In the accompanying drawings like reference-numerals refer to like parts throughout.

Figure 1 is a side elevation of my device. Fig. 2 is an end elevation of the same. Fig. 3 is a view of my magnet-core. Fig. 4 is a perspective of one of my separator-plates.

Upon a stand 1 is mounted a magnet 2, composed of alternate plates of steel and soft iron having the usual wire coil surrounding them. To one pole of this magnet is secured the metallic separator-box 3 by means of clamps 4, which is in this way subject to the magnetic effect of the electromagnet. Within this box are metallic rods 5, bolted or otherwise secured in the framework thereof and extending across the same. To these rods are secured magnetizable corrugated plates which are so disposed as to be excited by the magnet 2. These plates have horizontal corrugations, and when in alinement with one another the series form spaced baffle-plates, between which the pulverized matter falls, the iron therein being attracted by the same and held in the angles of the corrugations of the plates. The bin 7, arranged above the separator-box, and the receiving-bin 8, held in any suitable manner below the box 3, are of any ordinary construction.

In operating my device the finely-pulverized fire-clay is placed in the upper bin, falling from this through the corrugated plates in the separator-box into the receiving-bin beneath. The magnet previous to putting the fire-clay in the bin having been excited in turn excites the corrugated plates, and the particles of iron are attracted to the plates and lodge in the reëntrant angles of the corrugations, while the cleaned fire-clay drops into the bin.

It is obvious that many changes may be made in the form of my invention without affecting the principles thereof, and I do not, therefore, desire to confire myself to the exact form herein shown and described, but desire to include all such as properly come within the scope of my invention.

I thus provide an improved form of the article specified which can be readily taken apart for the purposes of cleaning and repair and as readily reassembled.

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

1. An ore-separator, comprising in combination with a magnet, a separator-box, magnetizable corrugated plates supported therein, adapted to be excited by the magnet, and a feeder for feeding the material between said plates, substantially as described.

2. An ore-separator, comprising an electromagnet, a separator-box, horizontally-corrugated magnetizable plates vertically disposed in the said box, and means for feeding the material between the same, substantially as described.

3. An ore-separator comprising a magnet, a series of corrugated, vertically-disposed, magnetizable plates adapted to be excited by the said magnet, and a means for feeding the material to the plates, substantially as described.

4. An ore-separator comprising a magnet, a separator-box, a series of magnetizable plates vertically supported in the separator-box, said plates having horizontal corrugations therein, and being spaced apart to permit of the fall of material between the same, and means for feeding the material thereto, substantially as described.

5. An ore-separator comprising a magnet, a separator-box, and a series of corrugated magnetizable plates spaced apart to permit of material passing between the same, said plates adapted to be excited by the magnet, and means for supporting the same, in said box, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CONRAD F. LANCASTER.

In presence of—
LOUIS MOESER,
S. B. LEVIS.