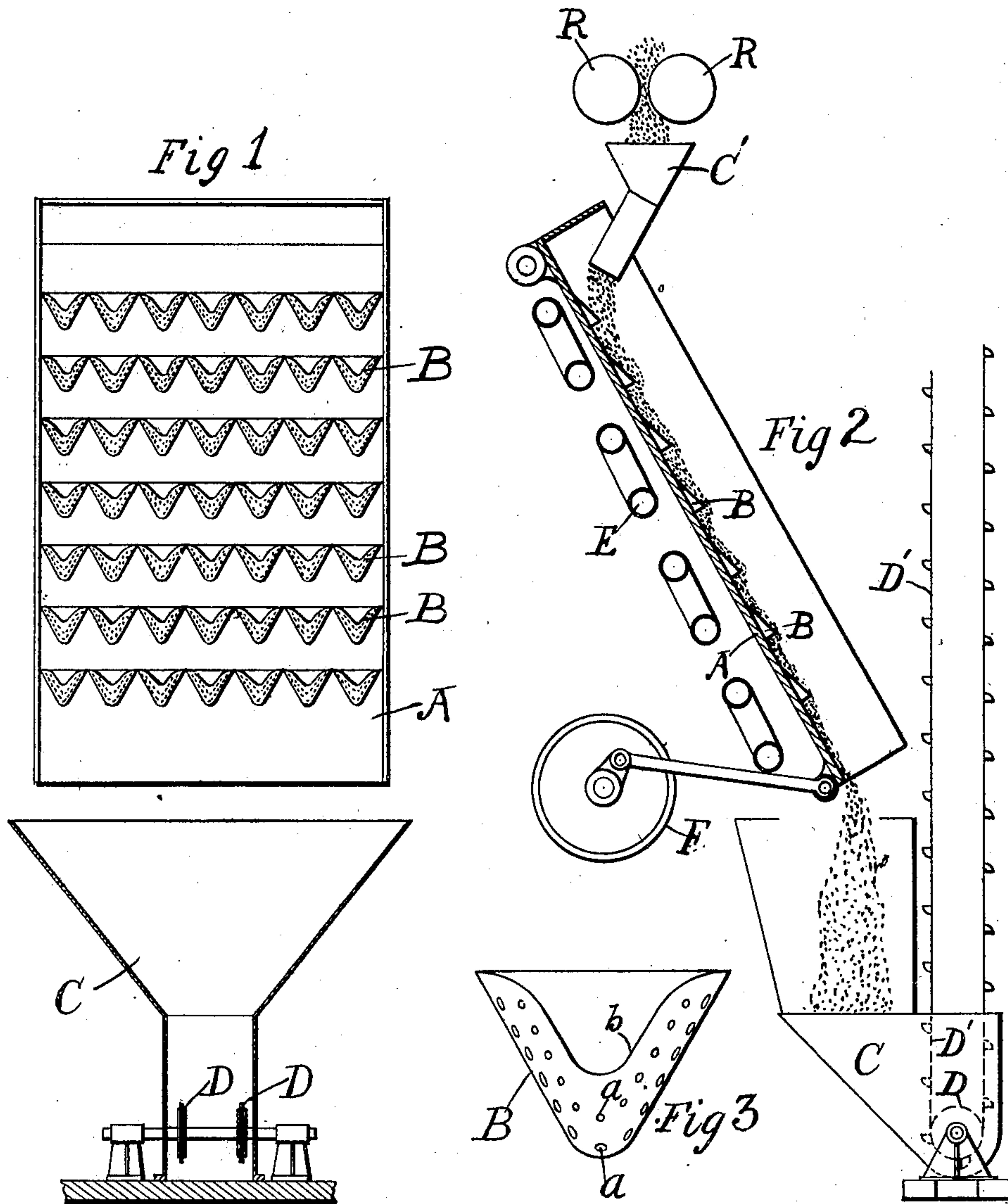


J. H. MORONG.

DRIER.

APPLICATION FILED SEPT. 12, 1902.

NO MODEL.



WITNESSES:

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JOSEPH HENRY MORONG, OF VIRGINIA, VIRGINIA, ASSIGNOR OF ONE-HALF
TO WM. D. ELGER, OF NEW YORK, N. Y.

DRIER.

SPECIFICATION forming part of Letters Patent No. 735,895, dated August 11, 1903.

Application filed September 12, 1902. Serial No. 123,105. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HENRY MORONG, a citizen of the United States, and a resident of Virgilina, in the county of Halifax and State of Virginia, have invented certain new and useful Improvements in Driers, of which the following is a specification.

My invention relates to drying-machines, and is particularly adapted for drying and disintegrating ores.

The object of my invention is to provide a drier which, receiving the crushed ore in a finely-divided state, shall break up any matted or flaked portions of the ore, dry it, and deliver the same in a condition suitable for being acted upon by a concentrator.

To carry out my invention, I arrange on an agitated screen a series of perforated pockets and so dispose these pockets that the ore in passing over the drier shall be thoroughly dried and at the same time remove any tendency of the ore particles to stick together.

In the drawings, Figure 1 is a top view of the drier, showing also the ore-receptacle in section and portions of the conveying apparatus; Fig. 2, a cross-sectional elevation showing the crushing-rolls, chute, section of drier and heating device, means for heating drier, agitator, conveying apparatus, and ore-receptacle; and Fig 3 is a detail sketch of one of the drier-pockets seen from above.

Referring to the drawings, A is the frame on which are mounted the rows of pockets B; C, a receptacle for collecting the dried ore; C', a chute. D D' are moving parts of the conveying device; E, the heating apparatus; F, an arrangement for agitating the drier; R, rollers for crushing the undried ore, and *a* denotes the perforations in the pockets B.

The operation of the device is as follows: The ore crushed in the rollers R is directed by the chute C' onto the drier-pockets B. It enters at the top row and passes into the pockets. (Shown more fully in Fig. 2.) The drier is agitated by an oscillator (indicated at F) and is herein shown as heated by steam-coils E. Any means of heating may be employed. The ore partaking of the oscillations of the

drier falls into the pockets B and most of it passes out in a finely-divided state through the holes *a*. These pockets can be stamped out in one piece and simply need to be riveted to the drier-base. The pockets are preferably set so that the exit of the upper one faces the inlet of the lower, and in case the ore is feeding in so fast that some flows over the inclined side *b* it will be caught in the next lower bucket and thoroughly broken up before it is discharged into the conveyer-receptacle C. The oscillating apparatus F insures a complete breaking up of any lumps, and the ore reaches the concentrator-conveying belt in a perfectly-dried condition.

Having thus fully described and illustrated my invention, what I claim is—

1. In a drier, the combination of an agitated platform and a plurality of downwardly-tapering and perforated pockets attached thereto, substantially as set forth.

2. In a drier, the combination of an imperforate frame, a series of perforated sifting-pockets, means for agitating said pockets and frame, and a heating device located in operative relation to said frame and pockets, substantially as set forth.

3. In a drier, the combination of a plurality of rows of perforated tapering sifting-pockets, means for heating and agitating said pockets, the pockets being so arranged relatively to each other that the tapering ends of one row face the expanded end of the one below, substantially as described.

4. In an ore-treating device, the combination of crushing-rolls, suitable guides and receptacles, an oscillated drier having perforated sifting-pockets arranged in rows one below the other, means for heating the ore on the drier, and means for conveying away the dried ore, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 5th day of September, A. D. 1902.

JOSEPH HENRY MORONG.

Witnesses:

WM. D. ELGER,
A. STETSON.