(No Model.)

J. F. SANDERS.

CONCENTRATOR FOR ORE SEPARATING APPARATUS.

No. 253,229. Patented Feb. 7, 1882.

Fig: 1

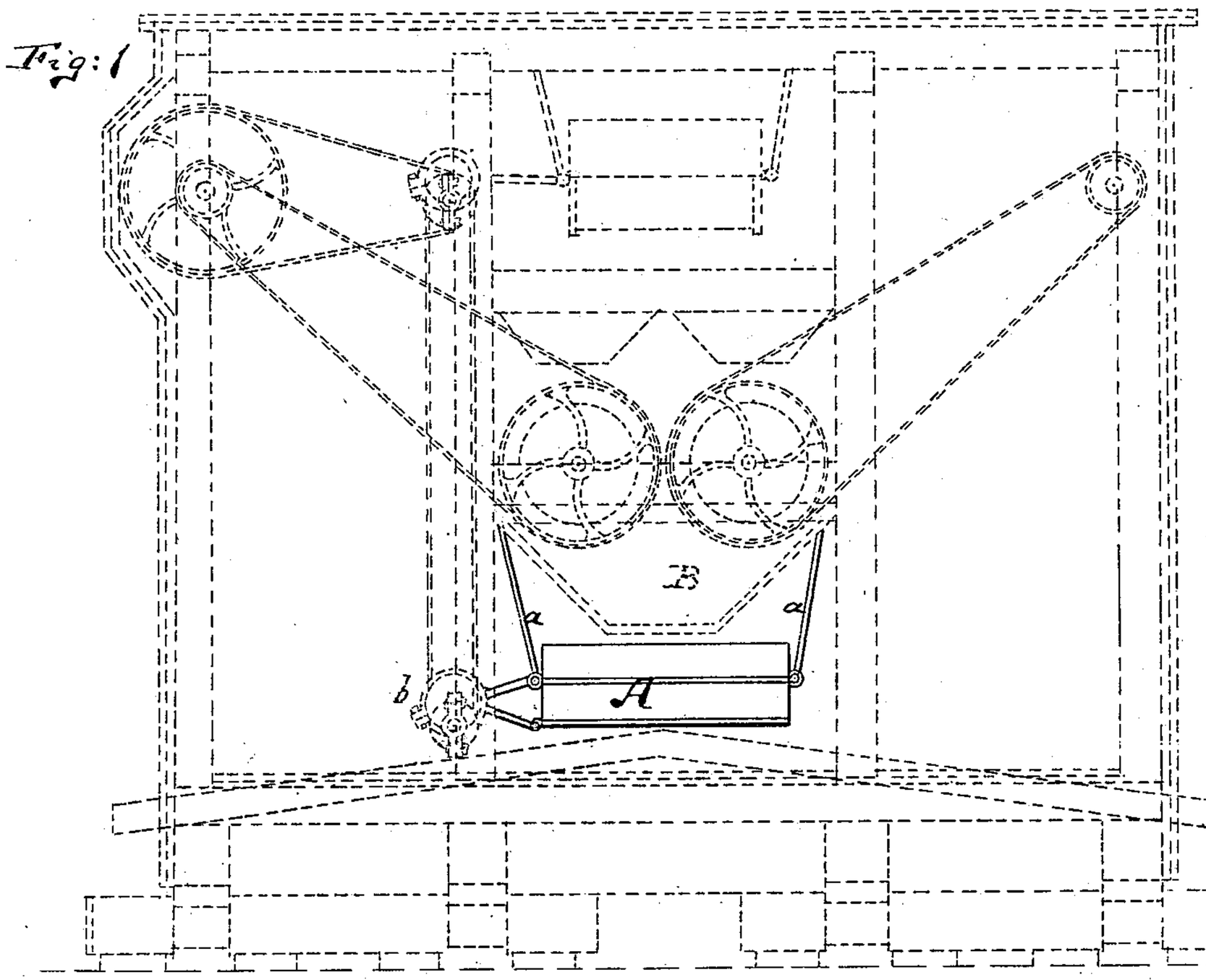
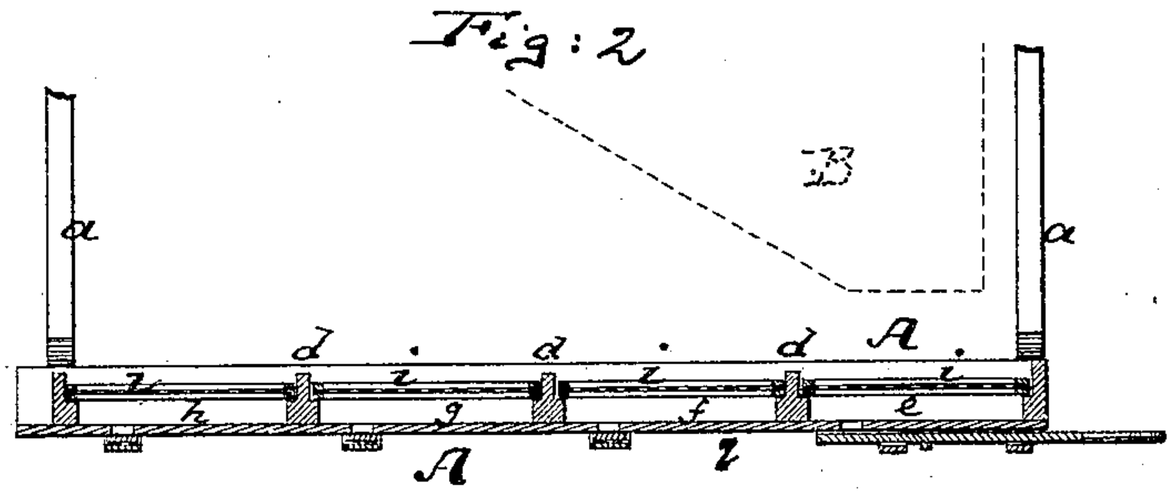


Fig: 2



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN F. SANDERS, OF OGDEN, UTAH TERRITORY.

CONCENTRATOR FOR ORE-SEPARATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 253,229, dated February 7, 1882.

Application filed June 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. SANDERS, of Ogden, in the county of Weber and Territory of Utah, have invented an Improved Concentrator for Ore-Separating Apparatus, of which the following is a specification.

This invention relates to the combination of a vibrating or otherwise agitated concentrator, which is divided into compartments by transversely-placed ribs, with sieves placed over said compartments, which sieves permit the fine particles of gold and other metals to pass through them into said compartments and protect them against the currents of water and against the downward pressure of the coarser sands, &c. The ribs which divide the concentrator into compartments extend also above the sieves.

In the accompanying drawings, Figure 1 represents an end view of my improved concentrator, showing it as suspended in suitable machinery for operating. Fig. 2 is a vertical longitudinal section of the concentrator.

The letter A represents the concentrator, which is a shallow pan, of proper length and width, suspended by rods *a*, or otherwise, from the supporting frame-work, and agitated by suitable eccentrics, (marked *b*,) which are shown by dotted lines in Fig. 1. This concentrator is placed under a suitable supply-hopper, B, indicated in Figs. 1 and 2 by dotted lines, so as to receive at one end the supply of mixed sand and gold or sand and amalgam which it is desired to separate. By means of vertical ribs *d* the concentrator is divided into several compartments, *e f g h*, whose number may of course vary as circumstances may dictate. These ribs support, at a distance below their upper ends and at a height of about one and one-half to two inches above the solid bottom *l* of the concentrator, sieves *i*, so that below these sieves there will be chambers of the concentrator, and above them will also be divided compartments. The sieves *i* of the several compartments may be of varying degrees of coarseness, so that the sieve receiving the first charge may be the finest, the next coarser in mesh, and so on. It will be readily perceived that the sieves allow the finer particles of gold and the like that are to be saved to drop into the compartment upon the bottom *l* below, whereas the coarser particles will remain on the sieve and by the shaking action of the concentrator be caused to pass over the separate ledge to the next sieve, excepting the coarse particles whose gravity will retain them on the first sieve. Thus I save in each compartment below the sieve the finest particles of gold or other material to be separated and on the sieve the coarser particles of the heaviest material contained in the gravel. The bottom *l* has an opening to each compartment, closed by a gate. Were it not for these sieves the currents of water which are usually employed on such concentrators to assist in moving gravel would be apt to carry the finest particles of gold off; and, again, the finest particles would be very apt, if it were not for the sieves, to be moved to the wrong place under the weight of the heavier gravel that rests on top. By means of the sieves the fine particles are protected against the superincumbent gravel, and also against being swept away by the current of water.

I do not here claim the concentrator provided with transverse ribs, nor one with a sieve-bottom alone; but

What I do claim is—

In a concentrator, A, having transverse ribs *d d*, which divide it into compartments, the sieves *i i*, placed above the receiving-bottom *l* of the concentrator and below the upper edges of the ribs, substantially as and for the purpose described.

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Witnesses:

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