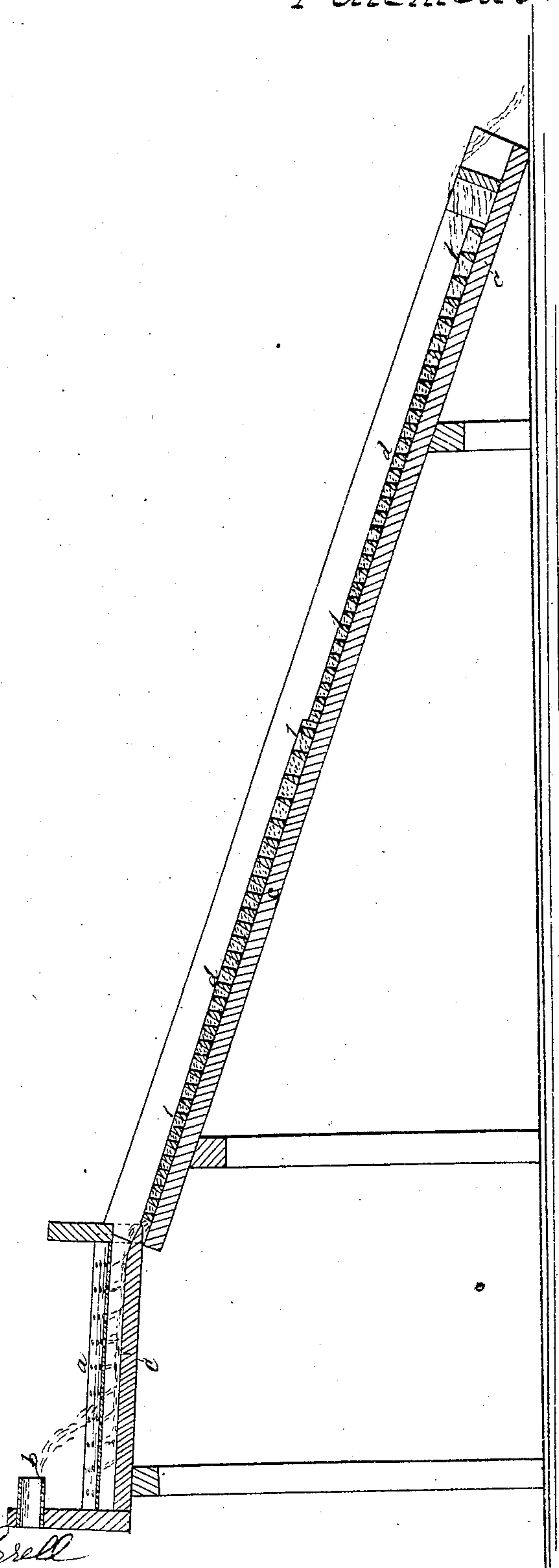


J.A. Bertola.
Gold Washer.

N^o 42,065.

Patented Mar. 29. 1864.



Witnesses.

Lemuel W. Correll

Ans. Geo. Bantel

Inventor

Joseph Alide Bertola

UNITED STATES PATENT OFFICE.

JOSEPH A. BERTOLA, OF NEW YORK, N. Y.

IMPROVED APPARATUS FOR CONCENTRATING AURIFEROUS ORES.

Specification forming part of Letters Patent No. **42,065**, dated March 29, 1864; antedated March 21, 1864.

To all whom it may concern :

Be it known that I, JOSEPH A. BERTOLA, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Means for Concentrating Auriferous Ores and Sands; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein I have represented a vertical longitudinal section of my concentrating apparatus.

Inclined planes with cross slats or rifles have heretofore been employed for concentrating metallic ores or sands washed over such inclined trough by water supplied at the upper end.

My said invention applies to this general character of concentrating apparatus; and it consists in a movable grating or gratings, which rest upon the inclined plane or trough and form grooves or rifles for the concentration of the auriferous sands or ores, and when raised allow such concentrated materials to be washed to the lower end of the incline or into any suitable receptacle, thus avoiding the trouble and delay experienced in cleaning out the grooves separately, as has heretofore been done, and I make the grating deeper at the lower end of each section than at the upper end, so as to form a deeper groove or receptacle for the metallic ores and sands, and thereby retain in such rifles the heaviest particles in the shallow grooves, while the less valuable portions are deposited in the deeper grooves.

In the drawing, *a* is a screen or sieve, upon which the metallic ores or sands are placed, and the sufficiently fine portions washed through such screen by a stream of water supplied at the pipe *b*, or otherwise, while those particles that are too large are conveyed away for regrinding. The metallic ores or sand and water run away upon the inclined plane or trough *c*, that is made of any suit-

able material and placed at the required inclination.

d is a grating, which I prefer to be made of metal, of a width to fill the trough, and of any suitable length, so that one, two, or more can be placed in the inclined trough. Each of these gratings is formed with bars or slats *l l* across the same, so that when the grating rests upon the incline or trough grooves or rifles are formed in which the auriferous materials lodge as conveyed along by the stream of water, and these bars or slats are deepest at the lower end, or are gradually deeper from the upper to the lower end of said grating, as shown, in order that the lighter metallic particles may be deposited in the deeper grooves formed between said slats, where the current of water will not act so powerfully as in the shallower grooves. When the grooves become sufficiently full, the metallic ores or sands are cleaned out of them by allowing the water to flow while the grating or gratings are raised, and the concentrated materials may be removed from the lower end of the incline or pass into any suitable receptacle. Pius may be introduced through the sides of the trough to hold up the gratings while they are being washed out and the concentrated ores delivered. By this means the delay and cost of removing the concentrated material from the grooves or rifles is very much lessened.

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

1. The movable grating or gratings *d*, applied to the inclined plane or trough of ore-concentrating apparatus, for the purposes and substantially as specified.

2. The bars or slats *l l*, found deeper at the lower end of the grating than at the upper end, for the purposes and as specified.

In witness whereof I have hereunto set my signature this 31st day of August, 1863.

JOSEPH ALCIDE BERTOLA.

Witnesses:

LEMUEL W. SERRELL,
THOS. GEO. HAROLD.