

P. S. BUCKMINSTER.
SHAKING TABLE FOR CONCENTRATING ORES.

No. 62,602.

Patented Mar. 5, 1867.

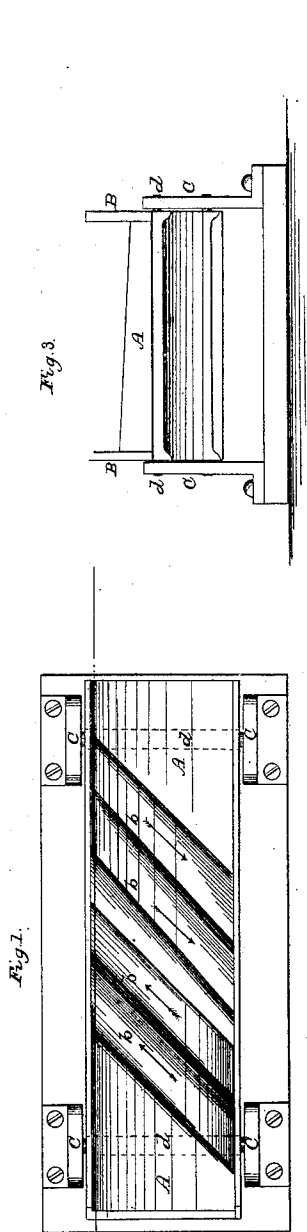


Fig. 3.

Fig. 1.

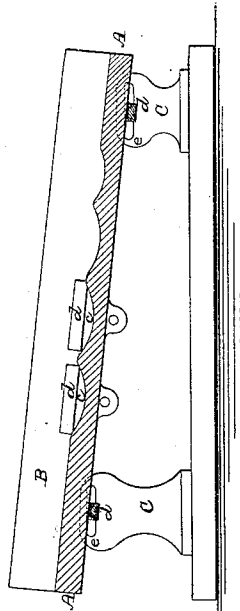


Fig. 4.

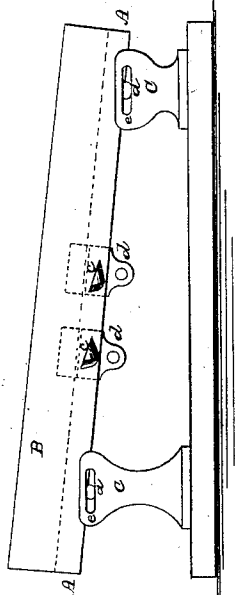


Fig. 2.

Witnesses:
J. Aserville
J. Geo. Luedel

Inventor:
P. S. Buckminster
Per Wm. C. Atkinson

United States Patent Office.

P. S. BUCKMINSTER, OF GOLD HILL, NEVADA.

Letters Patent No. 62,602, dated March 5, 1867.

IMPROVED SHAKING-TABLE FOR CONCENTRATING ORES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, P. S. BUCKMINSTER, of Gold Hill, in the county of Storey, and State of Nevada, have invented a new and useful improvement in Shaking-Tables for Concentrating Ores; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan or top view of a shaking-table of my invention.

Figure 2 is a side view of the same.

Figure 3 is a transverse section.

Figure 4 is a longitudinal section.

Similar letters of reference indicate like parts.

This invention relates to an improvement in shaking-tables for concentrating sulphurets, and other heavier mineral portions of gold and other ores, and consists in a novel plan for constructing and arranging the grooves or riffles in the bed of the table, by which the operation of separation of the heavier mineral from the lighter earthy matters in the ore is rapidly and thoroughly performed. The pulverized ores from the stamp-mill, the tailings, or waste sands, still containing gold and silver, and other minerals, and more or less quicksilver, and the soft, fine ores directly from the mine, can all be washed, and the rich and valuable portions concentrated for separate treatment, to extract the precious metals more economically and successfully than when associated with the earthy matters.

The shaking-table in its general construction is similar to that known as the Virginia shaking-table, the bed A being made of thick plank, five or six feet long, and two or three feet broad, more or less, having sides rising above the bed five or six inches high, and a head-board of the same height at the upper end, with the lower end of the table open. The table is set with a slight inclination longitudinally, and may be suspended by rods or chains, or supported on cross-bearers *a a*, the ends of which slide in slots *e e*, made in broad uprights C C, to receive an oscillating motion lengthwise, in the ordinary way, by means of a crank or eccentric, and with or without a reacting spring to produce percussion against a fixed point at the end. As generally constructed, the grooves or riffles are made at right angles across the bed of the table from side to side, without openings at their ends, to be used only for saving gold by amalgamation; and grooves or riffles of this kind do not serve the purpose of concentrating the sulphurets and heavier mineral portions of the ore or sands. For the purpose of concentration I arrange the grooves or riffles *b b* differently. They are made diagonally across the bed of the table, at an angle of about forty-five degrees to the sides, quite shallow at one end, and deep at the other. At the deep ends of the riffles, openings *c c* are made in the sides B B, in which are placed adjustable slides *d d*, for regulating the discharge of the concentrated sands through the openings.

The pulverized ores and the water to wash them are fed into the head of the table together, in the usual way, from a trough above, while the table is in motion, the oscillating motion throwing the heavier portions back at every stroke, so that they settle in the riffles according to their specific gravity, in the upper and lower riffles, and are thus graded, while the lighter earthy matters are carried forward and washed away by the current of water passing through and over the table. As the heavier mineral portions of the ore settle in the riffles they gradually work their way downwards to the openings *c c* in the sides B B, where their discharge is regulated by the adjustable slides *d d*, which the attendant, with a little experience, can manage easily. I do not confine myself to any particular form of depression or channels in the riffles, as this will be modified to suit different kinds of ores, my improvement being for the arrangement of the grooves or riffles diagonally across the bed, with adjustable openings for the concentration and discharge of the heavier portions of the sands through the sides of the table, while the earthy portions are washed away with the water from the end.

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

The riffles *b b*, running diagonally across the bed of a shaking-table, in combination with openings *e e* at one end, and the adjustable slides *d d*, for concentrating gold and other ores, arranged and operating substantially as herein described.

P. S. BUCKMINSTER.

Witnesses:

W. N. HALL,
S. O. HUNT.