(No Model.)

W. B. KENNEDY & W. M. NESBIT.

ORE CONCENTRATOR.

No. 300,479. Patented June 17, 1884.

Fig. 1.

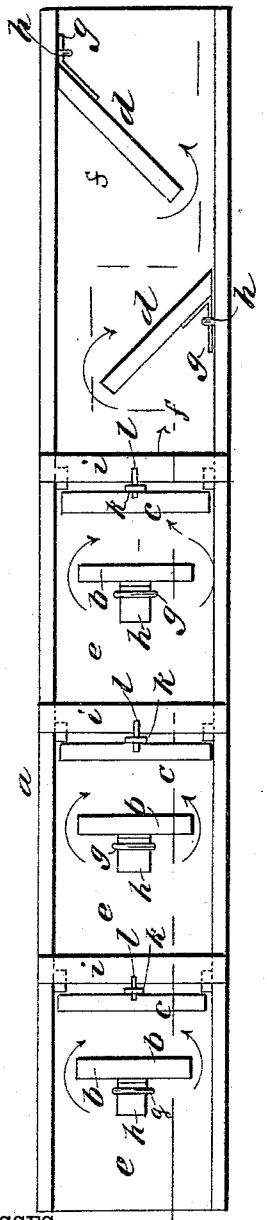
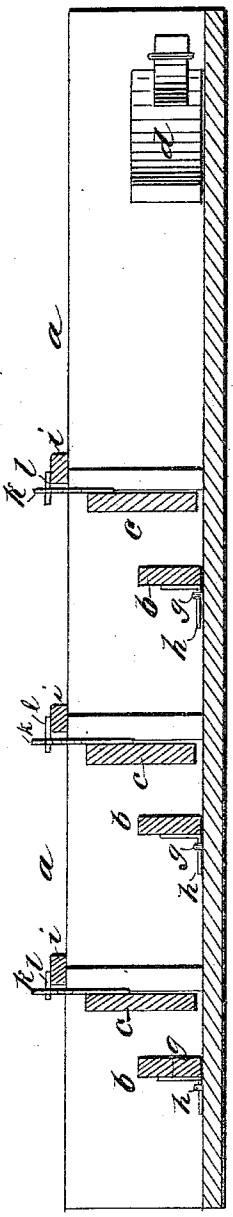


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM B. KENNEDY AND WATSON M. NESBIT, OF SILVER REEF, UTAH TERRITORY.

ORE-CONCENTRATOR.

SPECIFICATION forming part of Letters Patent No. 300,479, dated June 17, 1884.

Application filed December 13, 1883. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM B. KENNEDY and WATSON M. NESBIT, both of Silver Reef, in the county of Washington and Territory of Utah, have invented a new and Improved Ore-Concentrator, of which the following is a full, clear, and exact description.

Our invention consists of an improved contrivance of ore-concentrating apparatus, whereby the washing, concentrating, and separating of the ores will be more effectually accomplished, and the concentrates removed from the sluiceway to better advantage and more expeditiously than heretofore, all as hereinafter fully described, and specifically set forth in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of our improved ore-concentrator, and Fig. 2 is a longitudinal sectional elevation of the same.

In any suitable long box or sluiceway, *a*, we arrange a series of agitators, *b*, and governors *c* along the upper part of the same, and another series of wings, *d*, along the lower portion of the same, to form eddies and whirlpools to effect the concentration and deposit of the ore. Before each agitator *b* an eddy is formed which effects deposits at *e*. Between each agitator and governor a whirlpool is caused, which effectually washes and concentrates the ores, and between the lower governor and the upper wing, and also between the wings, eddies are formed at *f*, where the finer concentrates are deposited. We connect all these devices detachably, so that they may be removed to enable the concentrates to be washed out of the sluiceway at the lower end into suitable receptacles, instead of shoveling them out in different piles along the sluiceway.

The said devices may be connected in any approved way for being detached; but a simple way is to connect the agitators and the wings by hasps *h*, attached to them, and staples *g*, attached to the bottom or sides of the sluiceway, and the governors may be suspended from cross-bars *i*, on the top of the sluiceway, by bars *k* and keys *l*, the bars *k* being provided with apertures to engage the keys, whereby said bars may be adjusted up or down to set the governors higher or lower, according as they are required to be, for regulating the flow of the water, said governors consisting of gates which regulate the flow according as they are set higher or lower.

The agitators consist of partitions a little shorter than the width of the sluiceway, and are set down on the bottom, so as to prevent the flow of water except at the ends of the partitions, which causes eddies in front and whirlpools behind the agitators.

The wings consist of plates not quite as long as the width of the sluiceway, which are detachably connected to the opposite sides of the sluiceway, and point diagonally across the sluiceway in an upward direction suitable for forming eddies above them.

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

1. The combination, with a sluiceway, *a*, of independent detachable agitators *b* and vertically-adjustable governors *c*, arranged below each agitator, substantially as described.

2. The combination, with a sluiceway, *a*, of independent detachable agitators *b*, adjustable governors *c*, and independent removable wings *d*, arranged substantially as described.

3. An ore-concentrating sluiceway, *a*, having agitators *b*, governors *c*, and wings *d*, which are independent and detachably connected to said sluiceway for removal, to enable the concentrates to be washed out through the tail end of the sluiceway and collected thereat, substantially as described.

4. In an ore-concentrator, the combination of the bottom of the sluice with the agitators *b*, made narrower than the said sluiceway, and removable therefrom independently of each other, substantially as and for the purpose set forth.

5. In an ore-concentrator, the combination, in a sluiceway, of independent detachable agitators *b* and governors *c*, the lower face of each agitator being nearer the upper face of each governor than the lower face of each

governor is to the upper face of the next succeeding agitator, substantially as and for the purpose specified.

6. In an ore-concentrator, the combination, in a sluiceway, with detachable agitators and governors vertically adjustable, as described, of the detachable wings *d*, said wings and agitators being provided with hasps *g*, engaging staples *h* on the sluice, as specified.

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Witnesses:
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SAMUEL BAILEY.