A. MANN.

MINING RIFFLES.

No. 185,116. Patented Dec. 5, 1876.

Fig. 1

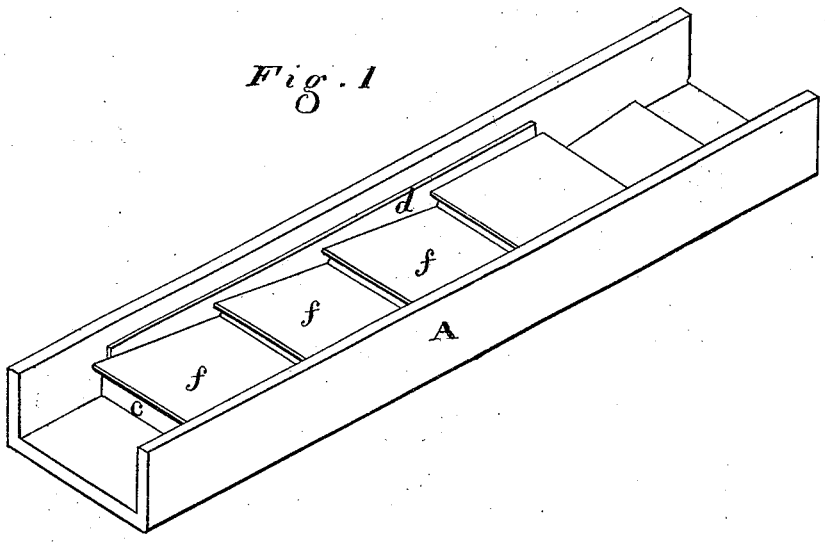
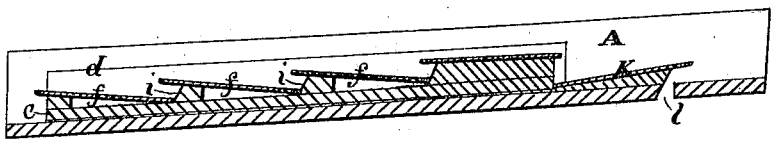


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE

AUGUST MANN, OF BIG OAK FLAT, CALIFORNIA.

IMPROVEMENT IN MINING-RIFFLES.

Specification forming part of Letters Patent No. **185,116**, dated December 5, 1876; application filed October 14, 1876.

To all whom it may concern:

Be it known that I, AUGUST MANN, of the town of Big Oak Flat, and county of Tuolumne, and State of California, have invented an Improved Mining-Riffle; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing.

My invention relates to an improved riffle floor or bottom for mining flumes and sluices, which is especially adapted for arresting and retaining the particles of gold, amalgam, and quicksilver which are carried down the sluice or flume by the water. My riffles are also adapted for separating and concentrating sulphurets, all as hereinafter described.

Referring to the accompanying drawing, Figure 1 is a perspective view. Fig. 2 is a longitudinal section.

Let A represent a flume, sluice, or other conductor, through which the auriferous matter from mills and mines is carried by a stream or current of water.

My improved riffle-bottom I make in sections, of a suitable length to be conveniently handled, so that the sections can be removed or replaced, when desired, without trouble. Each section consists of a board, C, to each edge of which is secured an upright metal side piece, *d*, the upper edge of which extends above the top of the board, as represented. This board, with its side pieces, is just wide enough to fit easily in the flume or sluice A.

Upon the board C I secure short metal plates *f f*, which extend entirely across it, from side to side, as represented. These plates are placed so that one end of each plate will overlap the end of the one next to it, like the plan ordinarily employed in laying shingles on a roof; and in order to give them the required inclination I place a suitable support, *i*, a short distance back of the upper end of each plate, so as to raise the upper end sufficiently from the lower end of the underneath edge of the next plate, and at the same time provide a recess or chamber below the upper or overlapping edge, in which the particles will concentrate.

In a riffle-bottom for catching particles of gold, silver, quicksilver, or amalgam I will employ copper plates, and I will place the sections in the sluice with their overlapping ends down stream, so that the particles will flow down and drop from the overlapping ends of the plates upon the upper ends of the plates below; or they may be placed with their pockets up stream, if preferred.

This arrangement will also allow the particles of metal to settle in the recesses underneath the overlapping edges and out of the way of the current, so that they are absolutely safe from being washed away.

At the termination of each section, or at stated intervals, I secure an inclined plate, K, to the bottom of the flume, under the upper or highest edge of which is a recess similar to those on the sections. I then make a slot, *l*, across the bottom of the flume, through which the sulphurets can pass and be caught in a box or other receptacle prepared to receive them.

For concentrating sulphurets iron plates can be used, and the sections can be placed with the pockets or chambers up or down stream. Either way will be effective.

In "clearing up," the sections can be easily removed by hand and replaced with fresh ones; but generally I shall employ two or more parallel flumes or sluices, and provide for temporarily diverting the current from one to the other when clearing up is to be done.

I thus provide an exceedingly simple and effective riffle and pockets for arresting heavy particles of matter which are being carried by a current of water through a flume or sluice.

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

1. A flume or sluice riffle consisting of two or more plates, *f f*, arranged to overlap each other shingle fashion, and having their upper ends supported, as described, whereby a recess or chamber is formed beneath each overlapping end, substantially as and for the purpose described.

2. The flume or sluice A, provided with the inclined plates K, each of which has a recess under its upper end, in combination with the

slot *l* in the bottom of the flume, substantially as and for the purpose described.

3. The flume or sluice A, provided with removable sectional riffle-bottoms, each section being composed of a board, C, provided with side-boards *d*, and having its upper surface covered with overlapping metal plates *f f*, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand and seal.

AUGUST MANN. [L. S.]

Witnesses:
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