S. M. EDDY.
Gold-Washer.

No. 219,926. Patented Sept. 23, 1879.

Fig. 1

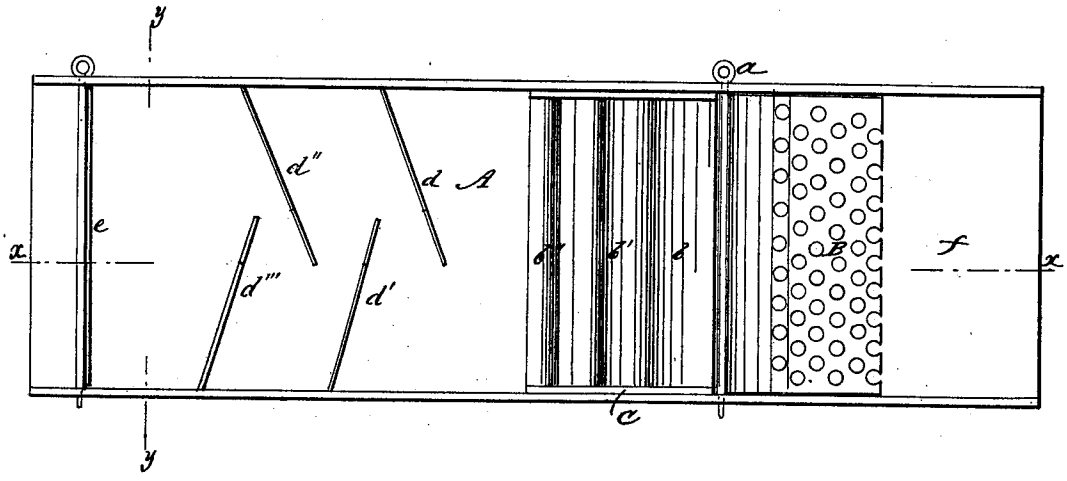



Fig. 2

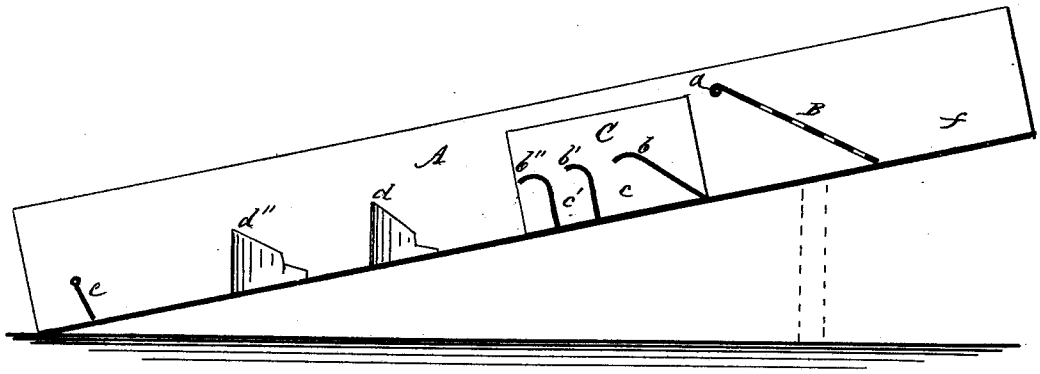
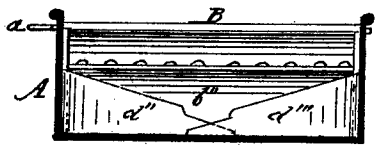



Fig. 3




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# UNITED STATES PATENT OFFICE

SAMUEL M. EDDY, OF DALTON, GEORGIA.

## IMPROVEMENT IN GOLD-WASHERS.

Specification forming part of Letters Patent No. **219,926**, dated September 23, 1879; application filed May 16, 1879.

*To all whom it may concern:*

Be it known that I, SAMUEL MILDEN EDDY, of Dalton, in the county of Whitfield and State of Georgia, have invented a new and Improved Gold-Washer, of which the following is a specification.

The object of this invention is to furnish a simply-constructed, easily-operated, and efficient apparatus for washing gold from the dirt, stones, &c., with which it is mingled.

It consists of a rectangular trough provided with gates, bars, or bridges, intervening pockets, and zigzag ribs or bars, for obstructing the material and supplying places for receiving and retaining the precious metal as it gravitates from the gold-bearing dirt, sand, &c.

In the accompanying drawings, Figure 1 is a top view or plan of my improvement. Fig. 2 is a longitudinal section of the same on line *x x*, and Fig. 3 is a transverse section on line *y y*.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the trough. Near the upper end is a gate, B, hinged at its upper edge by a pintle, *a*, passed through a socket therein and through the sides of the trough. The free end of the gate lies on the bottom of the trough in an inclined position, as clearly indicated in Fig. 2. This gate is provided with numerous holes for the passage of the water and dirt, but sufficiently small to intercept the larger rocks, stones, gravel, &c.

Just below the point where the gate is hinged is placed a tray, C, transversely, and in this tray are fixed, so as to lie across the trough, bars or hinges *b b′ b″*, having downwardly-curved edges. The first of these bars is inclined downward, while the next two are at right angles to the bottom of the tray. Between bars or bridges *b b′* and *b′* and *b″* are spaces *c c′*, respectively. This tray fits closely in the trough, so as to be immovable, and the space between its sides and those of the trough may be packed with cloth or in any other manner.

Below the tray are placed the zigzag ribs *d d′ d″ d‴*, projecting from opposite sides of the trough, so as to go part way across, and arranged so that *d* projects from one side, *d′* from the opposite side, and so on alternately, whereby a crooked channel is provided. These ribs incline from the sides of the trough to their ends and are projected upward, so that when the water reaches them it is thrown to the sides of the trough, first to one side and then to the opposite side, as it strikes the successive ribs, and the gold that falls to the bottom of the trough is deposited against the sides of the ribs where they join the sides of the trough, where they are highest, and thus it cannot be washed over, as the water flows toward the center rather than directly over the ribs.

Just below the series of ribs, near the end of the trough, is a hinged tail-gate, *e*, opening upward, which offers a final obstruction to the escape of the metal.

The operation of my improvement is as follows: The trough is placed in an inclined position with the perforated gate end upward, as shown in Fig. 2, so that the water will run through it freely. The gold-bearing sand, dirt, gravel, &c., is placed in that part of the trough marked *f*, above the closed gate B, and the water running through the trough carries it against the gate B, which retains all the coarser material, the finer passing through and over the bar or bridge *b* into pocket *c*, where, being arrested, the gold gravitates to the bottom and is retained. The material then passes over bar or bridge *b′* into pocket *c′*, is again arrested, and opportunity given for any gold carried over to be caught, and then, passing over bridge *b″*, it comes in contact with the rib *d*, which throws it against that side of the trough, where it is swirled around; thence it flows over against rib *d′*, and is thrown against that side of the trough, and so on until it flows over the tail-gate *e*. These several obstructions give opportunity for the gold to be caught and held. The heavier particles are readily intercepted in the pockets *c c′*, the lighter particles being apt to be buoyed up and carried downward by the force of the water; but, coming in contact with the ribs, they too are intercepted, the force of the water, owing to the upward projection of the ribs, tending to carry the particles against the sides of the trough in the angles formed by the junction of the ribs with the sides, while the water itself is changed in its course abruptly,

and loses the force that would cause it to carry the gold with it. Thus it will be readily seen that there are two opposing forces, one carrying the particles of gold into the angles, where they are retained, while the other carries the water off from them.

The tray C can be enlarged or lengthened, so as to enable more of the bars or bridges *b b' b''* and intervening pockets *c c'* to be employed. So, too, any number (only limited by the length of the trough) of the ribs constructed and arranged in the manner described may be employed.

The apparatus will be found very efficient in practice, allowing no gold whatever to escape, and is very simple and economical in its construction.

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

1. A gold-washer consisting of an inclined trough, A, having at the upper end a hinged perforated gate, B, below the gate a tray, C, provided with cross-bars *b b' b''*, and below the tray the upwardly-inclined ribs *d d' d'' d'''*, as shown and described.

2. The alternating ribs *d d' d'' d'''* in the lower part of a gold-washer trough on an upward incline, and extending about half-way across, as shown and described, to produce at the sides of the trough eddies, in which the gold will be precipitated, while matters in solution will pass off with the water.

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Witnesses:
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