

No. 673,806.

Patented May 7, 1901.

G. C. WALTERS.

GOLD SAVING, PLACER MINING, AMALGAMATING, AND CONCENTRATING MACHINE.

(Application filed Jan. 10, 1901.)

(No Model.)

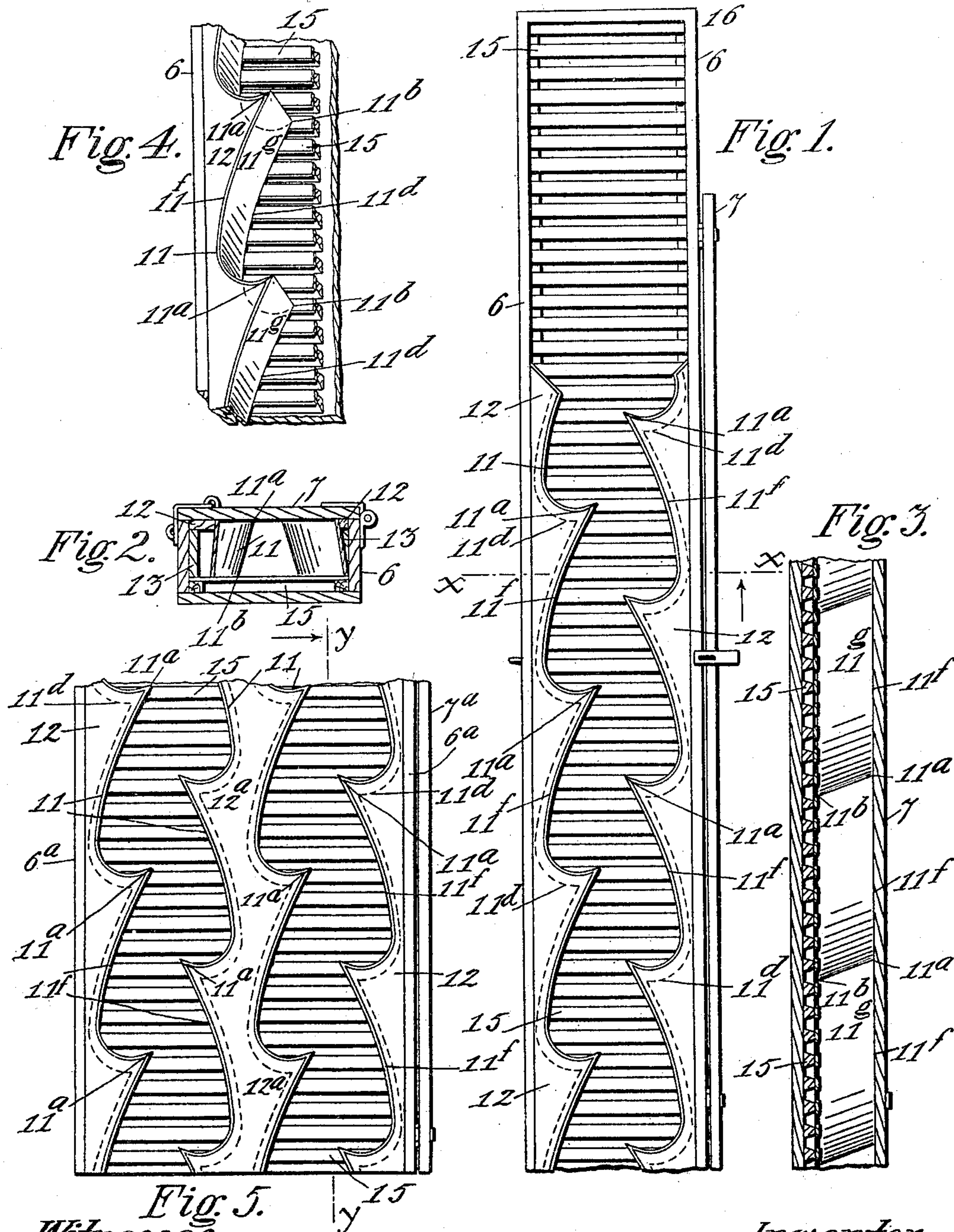


Fig. 5.  
Witnesses,  
H. M. Steff  
H. E. Richards

Inventor,  
George C. Walters,  
By J. W. Chubbuck,  
Attorney



# UNITED STATES PATENT OFFICE.

GEORGE C. WALTERS, OF DENVER, COLORADO.

GOLD-SAVING, PLACER-MINING, AMALGAMATING, AND CONCENTRATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 673,806, dated May 7, 1901.

Application filed January 10, 1901. Serial No. 42,821. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE C. WALTERS, a citizen of the United States, residing in the city of Denver, county of Arapahoe, and State of Colorado, have invented a new and useful Gold-Saving, Placer-Mining, Amalgamating, and Concentrating Machine, of which the following is a specification.

My invention relates to improvements in placer-mining, amalgamating, and concentrating machines in which projections or wings with curved surfaces or sweeps are used in connection with a sluice-box or with a concentrating or amalgamating table; and the objects of my improvements are, first, to produce such an agitation and movement of the water in passing through the sluice-box or over the amalgamating or concentrating table as to dissolve any dirt, gravel, or sand or other soft matter and to cleanse the gold contained therein; second, to produce such an agitation and movement of the water in passing through the sluice-box or over the concentrating or amalgamating table as to carry and force any and all particles of gold contained in the water or in the dirt, gravel, or other substance passing through the sluice-box or over the concentrating or amalgamating table to the bottom of the sluice-box or to the surface of the concentrating or amalgamating table for the purpose of saving such gold by use of riffles, amalgamation, or other suitable means. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view of the sluice-box with ordinary riffles in the bottom and with the projections or wings set in and suitably fastened to the sides thereof. Fig. 2 is a cross-section taken along the line *x x*, Fig. 1, and with a cover fastened over the box. Fig. 3 is a sectional view along the center of the sluice-box, taken along the line *y y*, Fig. 5, and with cover fastened on top of box. Fig. 4 is a detailed view in perspective of the wings or projections set in the side of the sluice-box. Fig. 5 is a top view of a sluice-box, showing the construction of the wings or projections where more than two rows or series of them are required for the practical operation thereof.

The five figures show the wings or projec-

tions in connection with a sluice-box; but it is intended to use the wings or projections in connection also with concentrating and amalgamating tables and machines.

Similar numerals refer to similar parts throughout the several views.

The structure 6 in Figs. 1, 2, and 4, and 6<sup>a</sup> in Fig. 5, constitutes the sluice-box, in the bottom of which are constructed suitable riffles 15. To the box also is hung a cover 7 in Figs. 1, 2, and 3, and 7<sup>a</sup> in Fig. 5, which may or may not be used in the operation thereof.

To the sides of the sluice-box 6 in Figs. 1, 2, 3, and 4 and to the sides and bottom of the sluice-box 6<sup>a</sup> in Fig. 5 are suitably fastened the wings or projections, (designated as a whole by the numeral 11,) which wings or projections 11 are built up from the bottom of the box flush to the top of same, of which wings or projections the numeral 12 designates the upper surface where they are attached to the sides of the box, and 12<sup>a</sup> the upper surface where they are attached to the bottom of the box; 11<sup>a</sup>, the extreme upper inside points; 11<sup>b</sup>, the extreme lower inside points; the dotted lines 11<sup>d</sup>, the lower inside edge next to bottom of box, and the lines 11<sup>f</sup> the upper inside edge, while 11<sup>s</sup> designates the inside surface or sweep of the wings or projections 11. In Fig. 2 the numeral 13 represents the inside framework of the wings or projections 11.

In the operation of the machine the water passing into the upper end 16 of the sluice-box and down through the same strikes the wings or projections 11, fastened either to the sides or bottom of the box, or both. The wings or projections 11, with a curve or sweep 11<sup>s</sup>, graduated in and down from extreme upper point 11<sup>a</sup> and upper edge 11<sup>f</sup> to the lower edge (represented by dotted line 11<sup>d</sup>) and to the lower point 11<sup>b</sup>, substantially as set forth in the accompanying figures, causes the water when striking and flowing along same to form whirlpools and eddies with a downward suction or movement and producing such an agitation and movement of the water as to dissolve the dirt and soft matter and to cleanse all gold and other substances in the same and producing such an agitation and movement of the water as to force and carry all gold and other substances



borne along by the water to the bottom of the sluice-box, where the gold may be saved by suitable riffles, by amalgamation, or by other suitable means.

5 In the operation of the machine the number of wings or projections to be used is not limited, and it is intended to use a suitable cover over top of sluice box or table. It is also intended to reduce very coarse gravel by  
10 means of a suitable grizzly.

I am aware that prior to my said invention sluice-boxes have been made with projections from the sides or bottom thereof. I therefore do not claim such a combination broadly; but

15 What I do claim as my invention, and desire to secure by Letters Patent, is—

1. An apparatus of the class described, comprising a channel whose side walls consist of a series of curved wings extending from in-  
20 terior points outwardly and forwardly, merg-

ing into abrupt inward curves each of which terminates where the corresponding wing lying immediately in front, begins, the said wings being inclined, their tops overhanging their base-lines and jutting into the channel. 25

2. A trough or sluiceway having transverse riffles in its bottom, its side walls being composed of a series of wings curved gradually outwardly from interior points, and merging into abrupt inward curves, each wing on the  
30 same side terminating where the wing immediately in front begins, the wings having inclined sides overlapping the interior of the channel, and the jutting points where the wings unite being staggered on opposite sides. 35

GEORGE C. WALTERS.

Witnesses:

WILLIAM E. RICHARDS,  
JOHN T. BOTTOM.