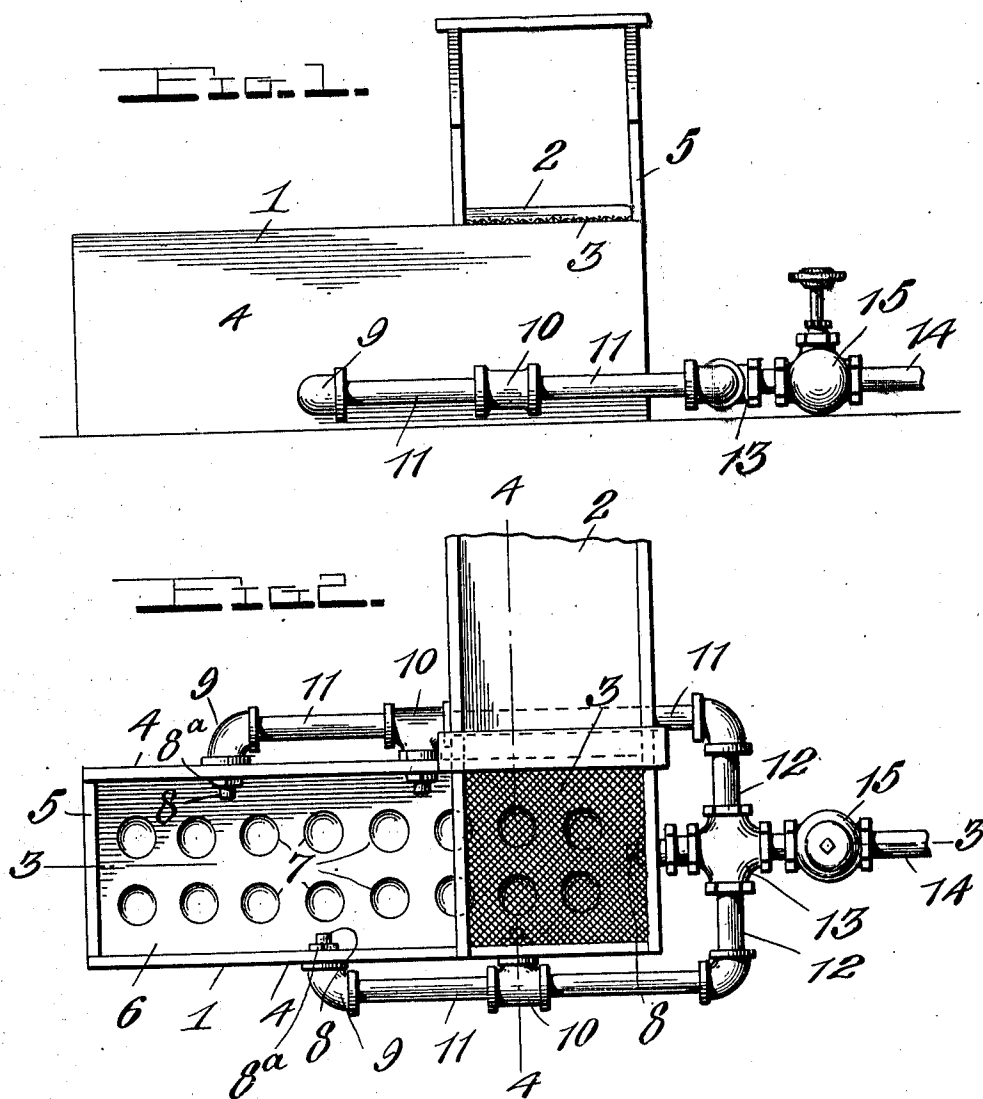


J. J. BARKER.
SLUICE BOX.
APPLICATION FILED MAY 3, 1910.

974,339.

Patented Nov. 1, 1910.
2 SHEETS—SHEET 1.



Inventor

J. J. Barker,

Witnesses

Chas. L. Griebauer.
E. M. Ricketts

By

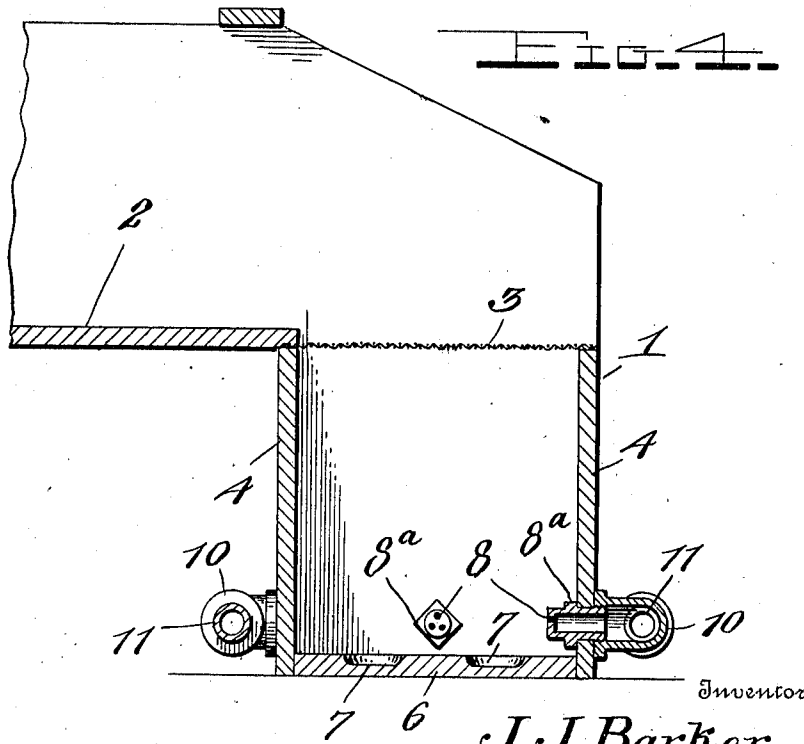
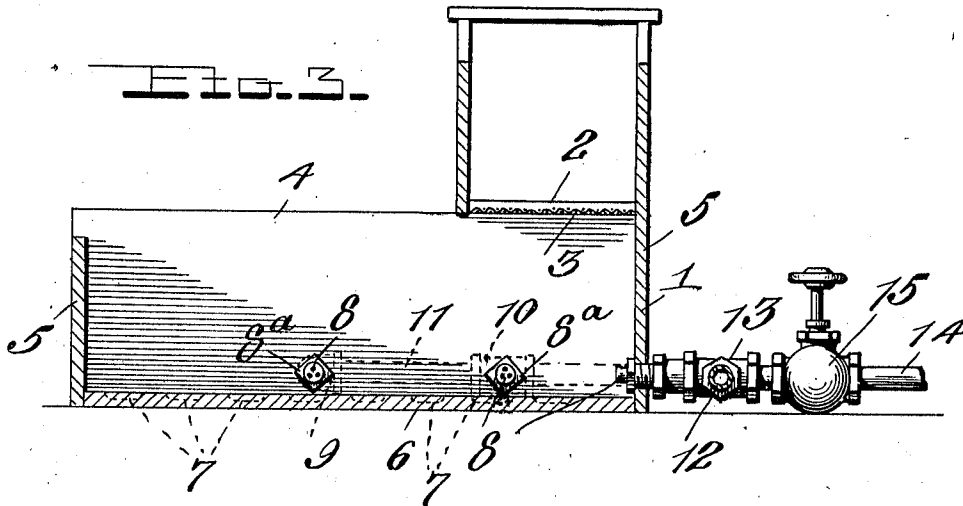
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UNITED STATES PATENT OFFICE.

JOHN J. BARKER, OF DELTA, COLORADO.

SLUICE-BOX.

974,339.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed May 3, 1910. Serial No. 559,226.

To all whom it may concern:

Be it known that I, JOHN J. BARKER, a citizen of the United States, residing at Delta, in the county of Delta and State of Colorado, have invented certain new and useful Improvements in Sluice-Boxes, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in placer mining machines, and more particularly to a sluice box in which an undercurrent of water is employed to float off the light sand and ore which does not contain gold or other precious metal.

The object of the invention is to provide a simple, practical and efficient sluice box of this character in which a peculiar arrangement of jet nozzles will agitate the water and the sand and pulverized ore so that the gold and the black or heavy sand containing fine particles of gold will settle on the mercury at the bottom of the box, while the remaining solid particle will be floated out of the box.

With the above and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, hereinafter fully described and claimed, and illustrated in the accompanying drawings in which:—

Figure 1 is a side elevation of a sluice box embodying my improvements. Fig. 2 is a top plan view. Figs. 3 and 4 are vertical sectional views taken respectively on the planes 3—3 and 4—4 in Fig. 2.

Referring more particularly to the drawings 1 denotes a sluiceway or box which is arranged transversely beneath a feed sluiceway 2 which has in the portion of its bottom immediately over the box 1 an opening covered by a screen 3 so that the water, sand and small particles of crushed ore will enter the box 1, while the rocks, stones, gravel and coarser material will roll over the screen and pass out of the open end of the feed sluiceway or trough 2.

The main sluice box 1 is preferably of rectangular shape and has upright side walls 4 united by end walls 5, one of which latter is removably mounted to permit of the ready cleaning of the box, and which is slightly lower than the other end walls and the side walls so as to provide an overflow. The bottom 6 of the box is covered with quicksilver and preferably provided with longi-

tudinal rows of pockets or depressions 7 for the latter.

For the purpose of agitating the water, sand etc., in the box 1 and floating off the light sand and giving the gold and heavy or auriferous sand a chance to settle on the mercury or quicksilver, I provide jet nozzles 8 in the opposite side walls 4 and in the end wall 5 which is opposite the overflow or outlet of the box. These nozzles 8 are arranged adjacent to the bottom 1 and the nozzles on the opposite sides of the box are arranged in staggered or zigzag relation so that cross currents of water will be formed to effectively agitate the entire body of water and the solid materials suspended therein. The nozzles 8 on each side of the box or sluiceway 1 are connected by elbows 9 and T-connections 10 to pipe sections 11, which latter are connected by elbows to a cross or connecting pipe 12 containing a four-way connection 13. One branch of the latter has connected to it the jet nozzle at the end of the box or sluiceway 1 and the fourth branch of the connection 13 is in communication with a main supply pipe 14, which latter contains a cut-off and controlling valve 15.

It will be noted on reference to Fig. 4, that each of the nozzles 8 is in the form of a cylindrical tube provided with a closed inner end containing a plurality of perforations. The other or open end of the nozzle tube is externally screw threaded to screw into one of the elbows 9 or the T-connections 10. On the intermediate portion of each of the nozzle tubes is formed a flat faced flange or collar 8^a, adapted to be engaged by a ring in applying or removing the nozzle and also adapted to serve as a stop or shoulder to engage the inner face of the upright wall of the sluice box as will be readily understood on reference to Figs. 3 and 4.

From the foregoing description taken in connection with the accompanying drawings, it is thought that the construction, operation and advantages of the invention will be readily understood without a more extended explanation.

Having thus described the invention, what is claimed is:

The herein described sluice box comprising a rectangular body having an open top and an overflow at one end, the bottom of said box being flat and formed with longitudinal rows of concave pockets to contain quicksilver, a jet nozzle arranged in the up-

right wall of the inlet end of the box, and in a plane slightly above the bottom of the latter to direct a jet of water longitudinally through the box, longitudinal series of jet
5 nozzles arranged in the upright side walls of the box to direct streams of water transversely across the bottom of said box, the jet nozzles on opposite sides of the box being arranged in staggered relation whereby
10 transverse currents of water are formed to intersect the longitudinal jet, each of said nozzles having a hollow cylindrical body

provided with an inner end having a plurality of perforations, all said nozzles being disposed in a common plane, and controllable means to supply water under pressure to said nozzles. 15

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN J. BARKER.

Witnesses:

WILLIAM H. BURNETT,
PEARL KINCADE.