No. 668,371. Patented Feb. 19, 1901.

L. FRANKLIN & J. TONNAR.

GOLD WASHING MACHINE.

(No Model.)

(Application filed Apr. 17, 1895.

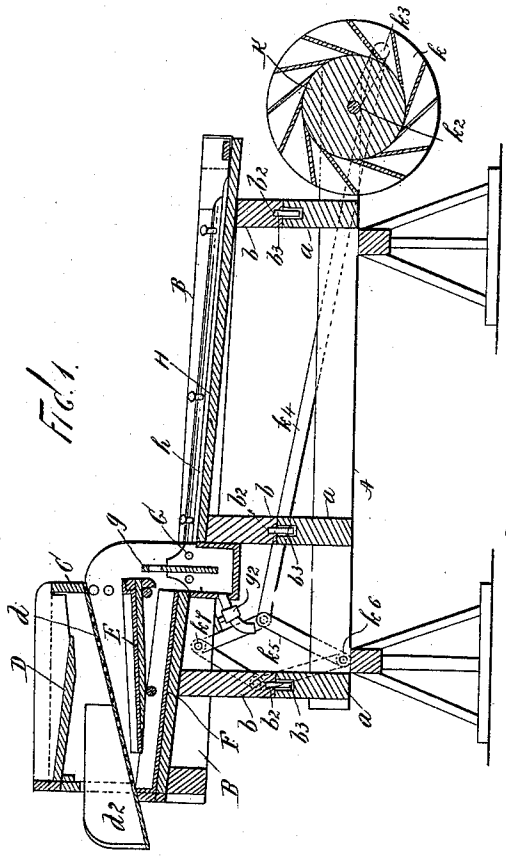


FIG. 1.

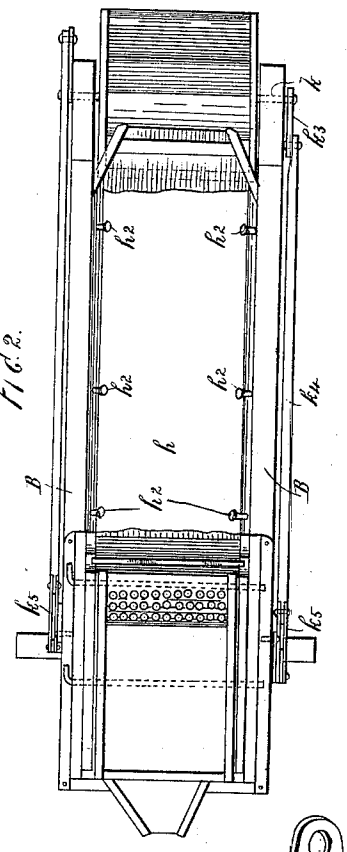


FIG. 2.

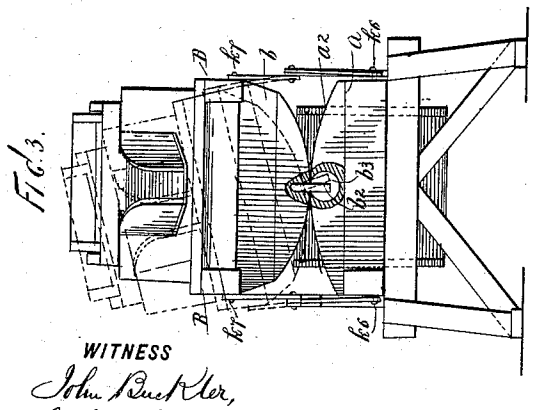


FIG. 3.

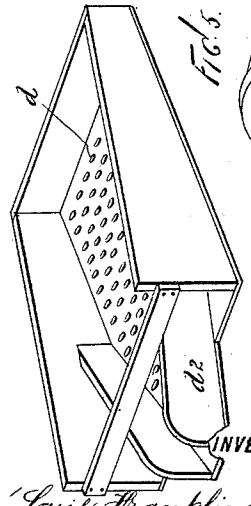


FIG. 4.

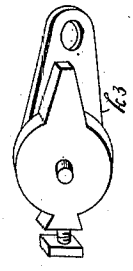


FIG. 5.

WITNESS

John Buckler,

C. C. Olsen

INVENTORS

Louis Franklin

John Tonnar

and

By Edgar Tate & Co.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LOUIS FRANKLIN AND JOHN TONNAR, OF ANACONDA, MONTANA.

GOLD-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 668,371, dated February 19, 1901.

Application filed April 17, 1895. Serial No. 546,153. (No model.)

To all whom it may concern:

Be it known that we, LOUIS FRANKLIN and JOHN TONNAR, citizens of the United States, residing at Anaconda, in the county of Deer Lodge and State of Montana, have invented a new and useful Gold-Washing Machine, of which the following is a specification.

This invention relates to machines for washing gold; and the object thereof is to provide an improved machine of this class by means of which the fine or flour gold may be separated from the dirt and saved.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a central longitudinal section which constitutes the subject-matter of this application. Fig. 2 is a plan view thereof; Fig. 3, an end elevation; Fig. 4, a perspective view of the preliminary separating-screen, and Fig. 5 a perspective view of a crank and set-screw employed.

In the drawings forming part of this specification the separate parts of the improvement are designated by the same letters of reference in each of the views, and in the practice of the invention a machine for the purpose herein specified is provided which comprises a base-frame composed of horizontal bars A, which are connected by cross-plates *a*, the upper surfaces of which are convex in form, as shown at a^2 in Fig. 3, and the object of these plates is to form a base for the rockers of the upper frame, which forms a part of the machine and which consists of parallel side bars B, connected by three transverse rockers *b*, each of which is provided centrally of the bottom thereof with a pin b^2, which projects into a circular cavity or recess b^3, formed in the central upper portion of the transverse base-plates *a*, and the object of these pins b^2 is to hold the upper frame, of which the rockers *b* form a part, in position, while permitting it to rock back and forth in the manner of a cradle. The upper frame is provided at one end with an upwardly-directed extension C, which is provided with a chute D, whereon the dirt and gravel containing the fine or flour gold is thrown and where it is subjected to a flow of water which is constantly mingled therewith, and immediately beneath the chute D is the preliminary separating-screen *d*, which is of the form shown in Fig. 4 and onto or into which the water and fine dirt or gravel containing the gold flows from the chute D, and said preliminary screen is provided with a discharge-spout d^2, through which the water and gravel passes and is discharged, the fine sand or dirt and the flour-gold, together with a portion of the water, being sifted through said screen onto a copper plate E, from which they continuously flow onto a second copper plate F.

It will be observed that the preliminary screen *d* is inclined downwardly and forwardly, as is also the plate E, while the plate F is inclined downwardly and backwardly, and these copper plates E and F are washed with quicksilver, so that the principal part of the fine gold as it passes thereover will adhere thereto and be separated from the sand and dirt.

Immediately back of the lower copper plate F is a transverse box or riffle G, provided with a vertically-movable partition-plate *g*, which is arranged longitudinally thereof and which is designed to retard the flow of the tailings onto the adjacent blanket-table H, which extends from the riffle-box G downwardly and backwardly, as shown in Fig. 1. The riffle-box G in practice is also provided with quicksilver in the bottom thereof, which collects a percentage of the gold in the usual manner, and said riffle-box is also provided with a faucet g^2 for the purpose of leading the product from the combined quicksilver and gold passing therefrom when the quicksilver becomes laden with the gold in the operation of the machine or when a "clean up" is desired.

The blanket-table H forms a discharge-chute, over which the water, fine dirt, and gold flows after leaving the riffle-box, and is provided with a covering of heavy sackcloth or similar material *h*, which is held in place by pins h^2, any desired number of which may be employed, and the finest portion of the gold, or that part which succeeds in passing the riffle-box G, is caught in the meshes of said cloth, the water and fine dirt or sand alone passing backwardly over the blanket-table and being discharged at the rear thereof, as will be readily understood.

Mounted rearwardly of the machine and beneath the rear end of the blanket-table is a water-wheel K, of any preferred construction, provided with buckets *k*, and the shaft k^2 thereof is provided at each end with a crank k^3, and each of these cranks is connected with a crank-rod k^4, and these crank-rods, one of which on each side of the machine are each connected with a toggle-lever device k^5, two of which are employed and which are pivotally connected with the base-frame at each side thereof, as shown at k^6, and also with the upper frame, as shown at k^7.

In the operation of the machine the water flows from the blanket-table onto the wheel K, which is constantly revolved thereby, and this revolution of the wheel K operates the crank-rods k^4, which in turn alternately operate the toggle-lever devices k^5, and thus rock the upper frame, which is kept constantly in a rocking motion thereby. The cranks k^3 on the shaft k^2 of the water-wheel K project in opposite directions, and thus cause the necessary alternate forward and backward movement of the crank-rods k^4. It will thus be seen that the copper plates E and F, the riffle-box G, and the sackcloth on the blanket-table all serve in succession to extract the gold from the dirt and sand, and only the thinnest portion of the gold reaches the blanket-table, and this is separated from the sand, dirt, and water as the latter passes over said blanket-table and is retained in the machine by the sackcloth which is placed thereon.

The sackcloth may be removed from the blanket-table and the gold shaken or washed therefrom whenever desired.

The pins b^2 constitute pivots which hold the upper frame in position while permitting it to rock freely, and the entire machine is simple in construction and operation and perfectly adapted to accomplish the result for which it is intended.

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

A machine for washing gold, comprising a stationary base-frame, a rocking frame mounted thereon, said rocking frame being provided with a downwardly and backwardly directed chute forming part of an apparatus mounted on said frame for washing and separating gold from ore and dirt, and a water-wheel connected with the rear end of the base-frame and adapted to receive the discharge from said chute, the shaft of which is provided at each end with a crank, a crank-rod connected with each of said cranks at the opposite sides of the machine, and toggle-levers connected with the base-frame and with the rocking frame, and with which said crank-rods are connected, whereby the movement of said wheel is utilized for operating the rocking frame, substantially as shown and described.

LOUIS FRANKLIN.
JOHN TONNAR.

Witnesses:
I. ROSENFIELD,
N. ROSENFIELD.