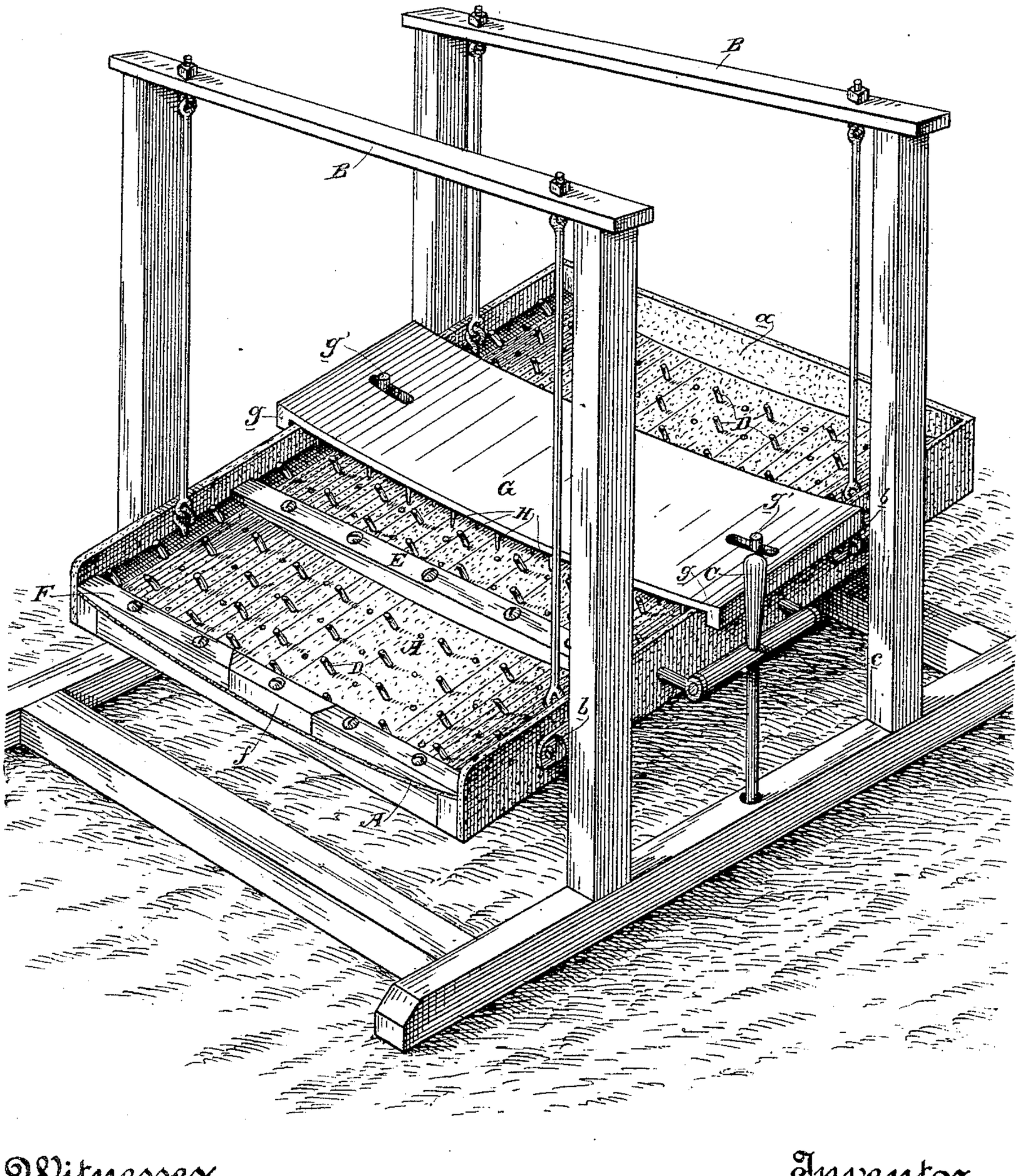
(No Model.)

O. H. BAGLEY.

GOLD SAVING APPARATUS.

No. 450,764. Patented Apr. 21, 1891.



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UNITED STATES PATENT OFFICE.

OLIN H. BAGLEY, OF ASTORIA, OREGON.

GOLD-SAVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 450,764, dated April 21, 1891.

Application filed January 20, 1891. Serial No. 378,471. (No model.)

To all whom it may concern:

Be it known that I, OLIN H. BAGLEY, a citizen of the United States, residing at Astoria, Clatsop county, State of Oregon, have invented an Improvement in Gold-Saving Apparatus; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of gold-saving apparatus in which the gold-bearing material, together with water, is fed to a pan or table which has a shaking and jarring motion.

My invention consists in the novel construction of the table, the riffles, and the agitators hereinafter fully described, and specifically pointed out in the claims.

The object of my invention is to provide a simple, practical, and readily-portable apparatus for saving gold by means of concentration.

Referring to the accompanying drawing for a more complete explanation of my invention, the figure is a perspective view of my apparatus.

A is the pan or table of the apparatus, which may be made of suitable material, preferably of rubber, and provided with an inclosing flange *a*. The table is made concave in the direction of its width, so that its middle throughout its entire length is lower than its sides, and said table is to be secured to a bottom frame-work of wood or other material by suitable means, as by copper rivets. This table is suspended from arms B of a suitable frame-work, so that it may have a swinging lateral movement, and at the limits of its movement a jar is imparted to it by means of buffers *b* on its sides coming in contact with suitable stops on the frame-work. Motion may be imparted to it by any suitable means—as, for example, by means of the hand-lever C, secured on one side in the rocking shaft *c*. One end of the lever projects into a hole in the timber below, so that by moving the upper end the whole table may be rocked back and forth and jarred. The whole surface of the table is provided with a series of agitating-pins D, which are preferably arranged to lean with the flow of the material upon the table.

E is a riffle, the lower side of which conforms to the concavity of the surface of the table and the upper side is straight or flat. This riffle is placed transversely of the table and is secured by screws or other fastenings in such a way that it can be readily removed and replaced either in the same or in a different position, as may be required

F is a second riffle, similar in shape to the first and located at the end of the table. This riffle is provided with a removable gate or piece *f* at its middle portion.

G is a top agitator, consisting of a plate of wood or other material bent into a concavo-convex form, whereby it conforms to the curvature of the surface of the table. This plate is provided with end cleats *g* and rests transversely of the table upon its side flanges *a*, and the distance between its end cleats is greater than the distance between the side flanges, so that as the table is jarred the top agitator-plate will be jarred also and have a side movement on the flanges. Guide-pins *g'* rise from the table and play in elongated slots in the top plate. Agitator-pins H extend downwardly from the plate and lie between the rows of agitator-pins below, though without touching them and without touching the surface of the table.

The operation of the apparatus is as follows: The material is fed upon the table at one end and the table is given a lateral motion and jar. This jar also gives a lateral motion to the top agitator-plate, which may extend over the whole or only a part of the length of the table. The agitator-pins in the table serve to break up the material and to keep it in constant action, while the agitator-pins above effect motion in the material from the top, thereby effectually keeping the stuff well stirred up. As the material works down, the heavier and precious particles are concentrated toward the depressed center of the table, while the lighter and worthless portions tend toward the sides, and as the whole material works downwardly the concentrates are caught by the first riffle, the heavier body of them being at the thick central portion of the riffle, while the lighter material passes over its thin ends and over the top of the middle portion also. Whatever concentrates pass over the first riffle are caught by the second riffle. The object of the gate or removable piece *f* in the second riffle is to facilitate

the cleaning up of the apparatus. When it is necessary to clean up, less water is supplied while the apparatus is still working, and the sand is run as close to the first riffle as may be. Then said riffle is removed, which allows the concentrations to work down against the second riffle and gate. When all the sand has passed that will pass, the gate *f* is removed, and then with a broom the table and riffle are cleaned by sweeping all the concentrations forward to the open gate and through said gate into a pan. I then replace the first riffle, and the gate in the second riffle and the apparatus are ready for work again. The waste material, when the machine is working, flows into a sluice-box at the lower end, which should be provided with a double screen to avoid splashing.

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

1. In a gold-saving apparatus, the combination of the swinging and jarring table to which the material is fed, said table being provided with a series of agitating-pins and having side flanges, and a transverse top plate lying upon the side flanges of the table and having a sliding movement transversely, due to the jar of the table, said plate having downwardly-extending agitating-pins, substantially as herein described.

2. In a gold-saving apparatus, the combination of the swinging and jarring table upon which the material is fed, said table having side flanges and agitating-pins rising from its surface, transverse riffles upon said table, and a transverse top plate mounted upon the side flanges of the table and having a transverse movement, due to the jarring of the table, said plate being provided with downwardly-extending agitating-pins, substantially as herein described.

3. In a gold-saving apparatus, the combination of the swinging table upon which the material is fed, said table having its surface concaved in the direction of its width and provided with a series of agitating-pins, and the transverse riffles of said table having their under surfaces conforming to the curvature of the table and their upper surfaces straight or flat, substantially as herein described.

4. In a gold-saving apparatus, the swinging table upon which the material is fed, said table being concave in the direction of its width and provided with a series of agitating-pins, the riffles on said table having their under surfaces conforming to the curvature of the table and their upper surfaces straight or flat, the end riffle having a removable central piece or gate, substantially as herein described.

5. In a gold-saving apparatus, the combination of the swinging and jarring table upon which the material is fed, said table having side flanges and its surface concaved in the direction of its width, the agitating-pins rising from said table, the riffles mounted transversely of the table, with flat or straight upper surfaces and under surfaces conforming to said table, and the concavo-convex plate mounted upon the side flanges of the table and having end cleats, whereby said plate moves laterally, due to the jar of the table and the downwardly-extending agitating-pins of said top plate, substantially as herein described.

6. A gold-saving apparatus consisting of the concave swinging and jarring table having side flanges and agitating-pins, the riffles mounted transversely of the table, conforming to their curvature underneath, and having flat or straight upper surfaces, the end one of said riffles having a removable gate, the curved top plate resting on the side flanges of the table and having end cleats, whereby said plate may have a lateral movement, due to the jar of the table, the agitating-pins extending downwardly from the plate, and the guide-pins rising from the table and playing in elongated slots in the top plate, substantially as herein described.

In witness whereof I have hereunto set my hand.

OLIN H. BAGLEY.

Witnesses:
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