

No. 704,372.

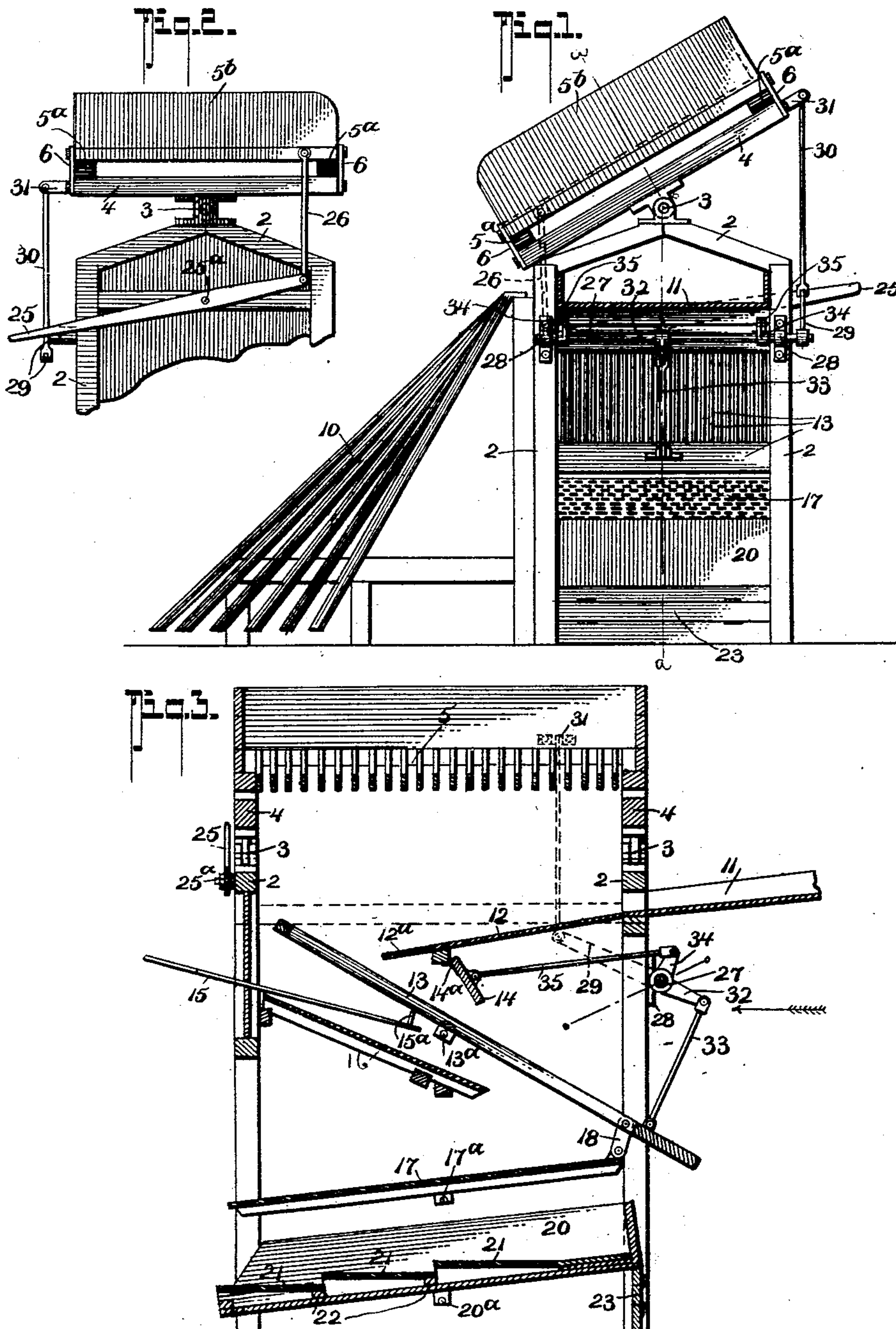
Patented July 8, 1902.

C. RAMOS.
GOLD SAVING MACHINE.

(Application filed Sept. 10, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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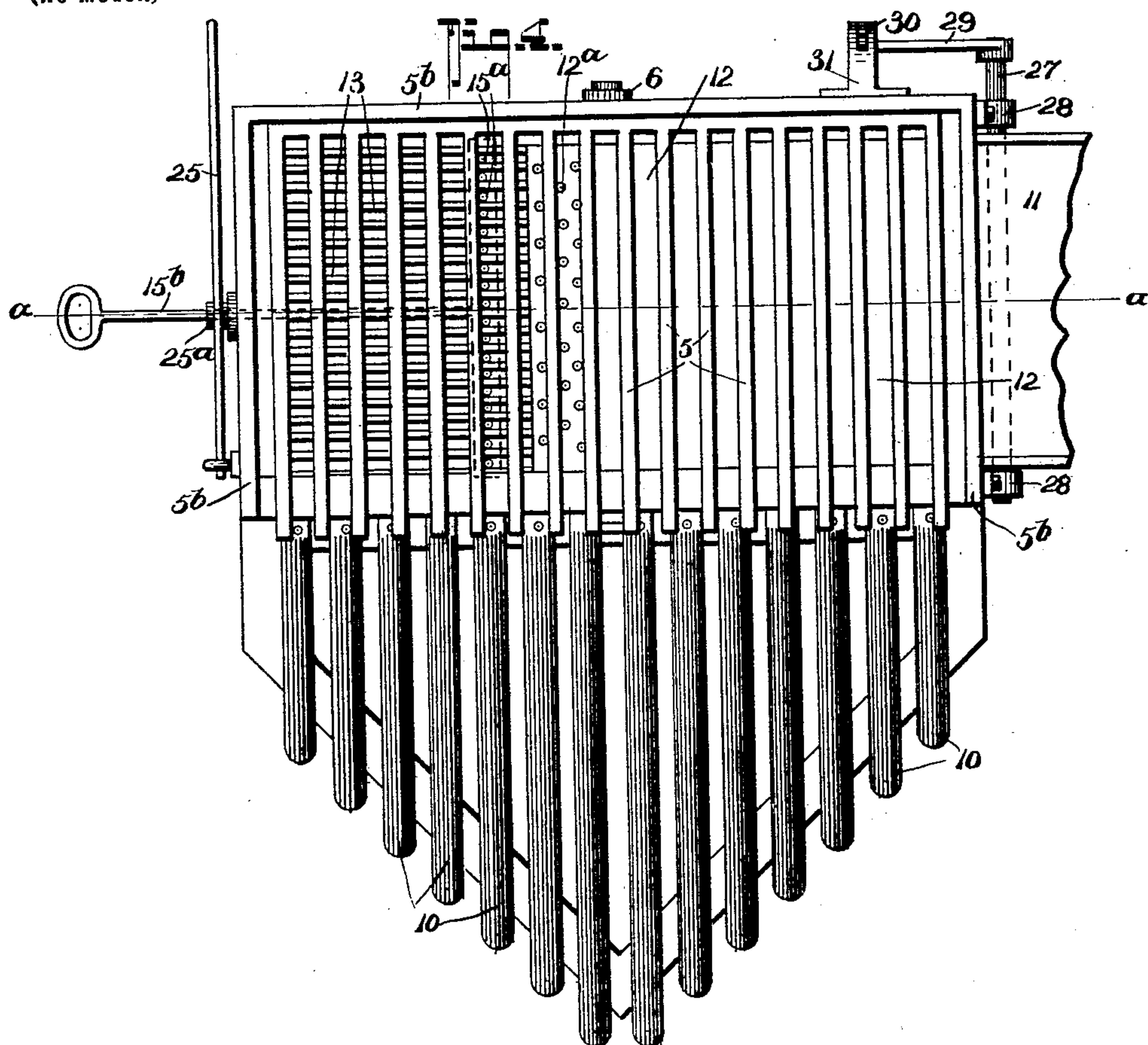
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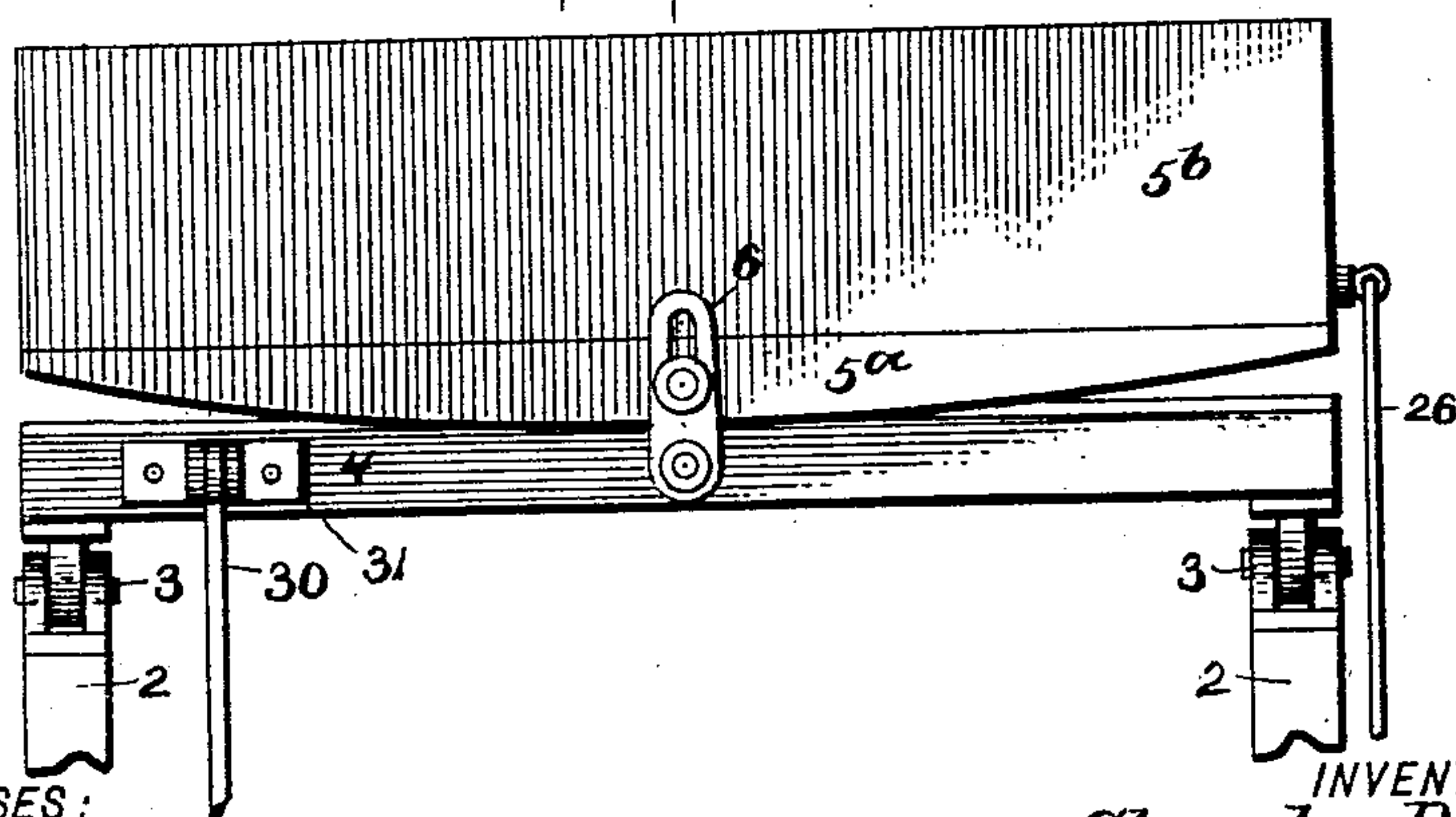
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2 Sheets—Sheet 2.

(No Model.)



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UNITED STATES PATENT OFFICE.

CHARLES RAMOS, OF VANCOUVER, CANADA.

GOLD-SAVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 704,372, dated July 8, 1902.

Application filed September 10, 1901. Serial No. 74,874. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RAMOS, a citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Gold-Saving Machine, of which the following is a specification.

My invention relates to an improved machine for saving gold from auriferous earth or gravel, and is particularly designed to deal with such in large quantities, as in use with a steam digger or excavator, and to save both coarse and fine gold therefrom with the requirement of a minimum of water and labor. I also aim to discharge all boulders and gravel by passing the earth successively over graded grizzlies and screens before admitting the sand to the saving-sluice. I attain these objects by the means illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the end of the machine at which the water enters; Fig. 2, an elevation of the upper part of the opposite end; Fig. 3, a vertical section on the line *a a* in Fig. 1; Fig. 4, a plan of the machine, and Fig. 5 an elevation of the back of the receiving-grizzly rocker.

The supporting-frame of my machine is composed of stout corner-posts and cross-braces, the siding being lined with sheet metal and the interior left open to receive the various grizzlies and screens. Surmounting this framework 2 and resting on the pivot-pins 3 on the angled upper end members is the underframe 4 of the receiving-grizzly 5. This grizzly 5 rests on the underframe 4 on curved rockers 5^a, the motion on which is suitably checked by the slotted plates 6. The bars of the grizzly are arranged across the width of the machine, and it has on three sides walls 5^b, the fourth being left open in the direction of the bars to permit of boulders and large stones being dumped when desired, the "pilot-guard" 10 throwing the same clear of the machine.

At one end of the machine, just below the support of the grizzly 5 and at right angles to its bars, the water-sluice 11 enters and discharges over a sloping dead-plate 12, which extends across the width and to beyond the center of the machine, being perforated at the lower end, as 12^a. Just below this is a

finer grizzly 13, so mounted on pivots 13^a in the wall of the frame that the slope may be increased when desired by a mechanism to be described later.

A flap-door 14 is hung on hinge-pins 14^a to the under side of the lower end of the dead-plate 12 and, extending across the width, is adapted to close the space between dead-plate and grizzly.

Under the upper half of the grizzly 13 is a rake 15, having upwardly-projected tines 15^a, pitched between each bar-space. The ends of this rake are slidable in inclined guides in the side walls of the machine and may be actuated by a center stem 15^b, extending through the end of the machine and provided with a suitable handle. The position of this rake is so arranged that when the grizzly is at its least slope the tines project through between its bars and, being moved out and in, any gravel which may have become wedged between the bars is released.

Below the grizzly is a dead-plate 16, sloping from its higher end to beyond the center, and below this, sloping in the opposite direction, a perforated plate 17 is supported on pivot-pins 17^a in the side wall, so that its slope may be varied along with the others, being connected to the grizzly 13 by the links 18.

Below the perforated plate and sloping the same way is the riffle-box 20, through which the finer sand and water finally flows. It is provided with shallow downward steps of perforated plate 21 and a cross-bar 22 at the bottom of the box between each step, and the water and sand are finally discharged into the tailings-flume. This riffle-box 20 is centrally pivoted at 20^a, and its grade may thus be varied by the hinged end bars 23.

At one end of the machine-frame a hand-lever 25, fulcrumed at 25^a, is at the other end connected by the link-rod 26 to the frame of the receiving-grizzly, and the attendant may thus between each discharge from the excavator or digger shake the dirt about on the grizzly-bars by means of the rockers 5^a. When all the dirt that will has passed through the bars, a further movement of the lever tips the underframe 4 on the pivot-pins 3 and the heavy gravel and boulders are dumped out, and falling on the bars 10 are thrown clear of the machine. Across the other end of the

machine, just below the water-sluice, is a rocking shaft 27 in bearings 28, and at the extreme end of this shaft, toward the back of the machine, a lever 29 is fixed to the shaft and connected by the link-rod 30 to the underframe 4 of the receiving-grizzly 5 by the projecting bracket 31. The motion of tipping the grizzly 5 is thus communicated to the rock-shaft 27, and a lever 32, secured to this shaft, imparts the same tipping movement in a cross direction to the interior grizzly 13 by means of the connecting-link 33. This movement by increasing the inclination enables the washed gravel to slide to the discharge end. Keyed to the same rocking shaft 27 are two short levers 34, which are connected to the flap-door 14 by the rods 35, and the door is thus constrained to open as the grizzly 13 is sloped for discharge. The perforated plate 17 being connected to the lower end of the grizzly 13 by the links 18, its slope is lessened as the other is increased, and any dirt falling through 13 during the discharge is not unduly hurried over the screen 17.

The operation of my machine requires little explanation. The dirt falling through the receiving-grizzly is carried by the flow of water over the dead-plate 12 to the higher end of the grizzly 13, which rejects the larger gravel and allows the smaller to pass through to be further sifted by the perforated plate 17, to the upper end of which it is conveyed by the dead-plate 16. The residue of fine sand carrying gold passes with the water through the perforated plates of the riffle-box, the particular construction of which is an important feature of my invention and is designed to prevent the fine float-gold being carried off in the current of water, the direct flow of which is broken up and checked by the sand and water falling through the apertures in the plate, thus giving the float an opportunity of settling in the riffles.

It will be seen that in the design of my machine I combine the merits of "rocker," "long tom," "sluices," and "riffle-box" and am enabled to wash and screen a large amount of dirt with a proportionately small amount of water.

The various parts of the machine are easy of access for repair and readily removed, while the regular simultaneous tipping of the grizzlies and screens, &c., prevents any undue accumulation of the "dirt" on them to interfere with their efficient action.

Having now particularly described my invention, what I claim as new, and desire to be protected in by Letters Patent of the United States, is—

1. In a machine for the purpose specified, having a stout open framework adapted to receive a series of baffles and screens; a rectangular frame surmounting such, and sustained

on pivots at its ends; a grizzly having three raised sides, and resting by means of curved rockers on the pivoted frame; and means whereby such grizzly may be rocked and tilted in cross motion, substantially as described.

2. In a machine for the purpose specified, in combination with a grizzly suitably supported on pivots and rockers over an open framework; within such frame, the sloping dead-plate 12 having perforations at its lower end; the grizzly 13 so pivoted below such that its slope may be varied; the flap-door 14 dependent on pins from the lower part of the dead-plate 12; the rake 15 slidable in the sides of the machine, the tines of which are pitched to enter the spaces between the grizzly-bars at its flattest slope; the dead-plate 16 adapted to throw the dirt toward the opposite end of the machine; the perforated screen-plates 17 pivoted at its center and linked to the lower end of the grizzly 13; and the sluice-box 20 pivoted at its center and provided with stepped perforated receiving-plates and cross-riffles, with means whereby its slope may be varied as desired.

3. In a machine of the class described, having a receiving-grizzly to which a rocking and tipping movement may be imparted, surmounting an open framework; in combination with a series of baffles and screens within such frame; the shaft 27 in bearings 28 fixed to the frame; the levers 29, 32 and 34 fixed to the shaft 27; the rod 30 connecting the receiving-grizzly underframe 4 to the lever 29; the rods 35 connecting levers 34 to the flap-door 14; the rod 33 connecting the lever 32 to the lower end of the pivoted grizzly 13, and the links 18 connecting the lower end of 13 to the end of the screen 17; by means of which these various parts are moved as specified by the tipping movement of the receiving-grizzly.

4. In a machine for the purposes described, a supporting-frame, shaking-screens and baffles mounted thereon, a rectangular frame pivotally mounted on the top of the supporting-frame to rock in lateral directions over the said supporting-frame, a grizzly having three raised sides, and having rocker-bearings on the pivoted frame extended lengthwise of said pivoted frame, and a hand-operated means for simultaneously imparting a rocking motion to the pivoted frame crosswise of the supporting-frame, and of the grizzly lengthwise of the pivoted frame, substantially as shown and for the purposes described.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

CHAS. RAMOS.

In presence of—

ROWLAND BRITAIN,
ELLICE WEBBER.