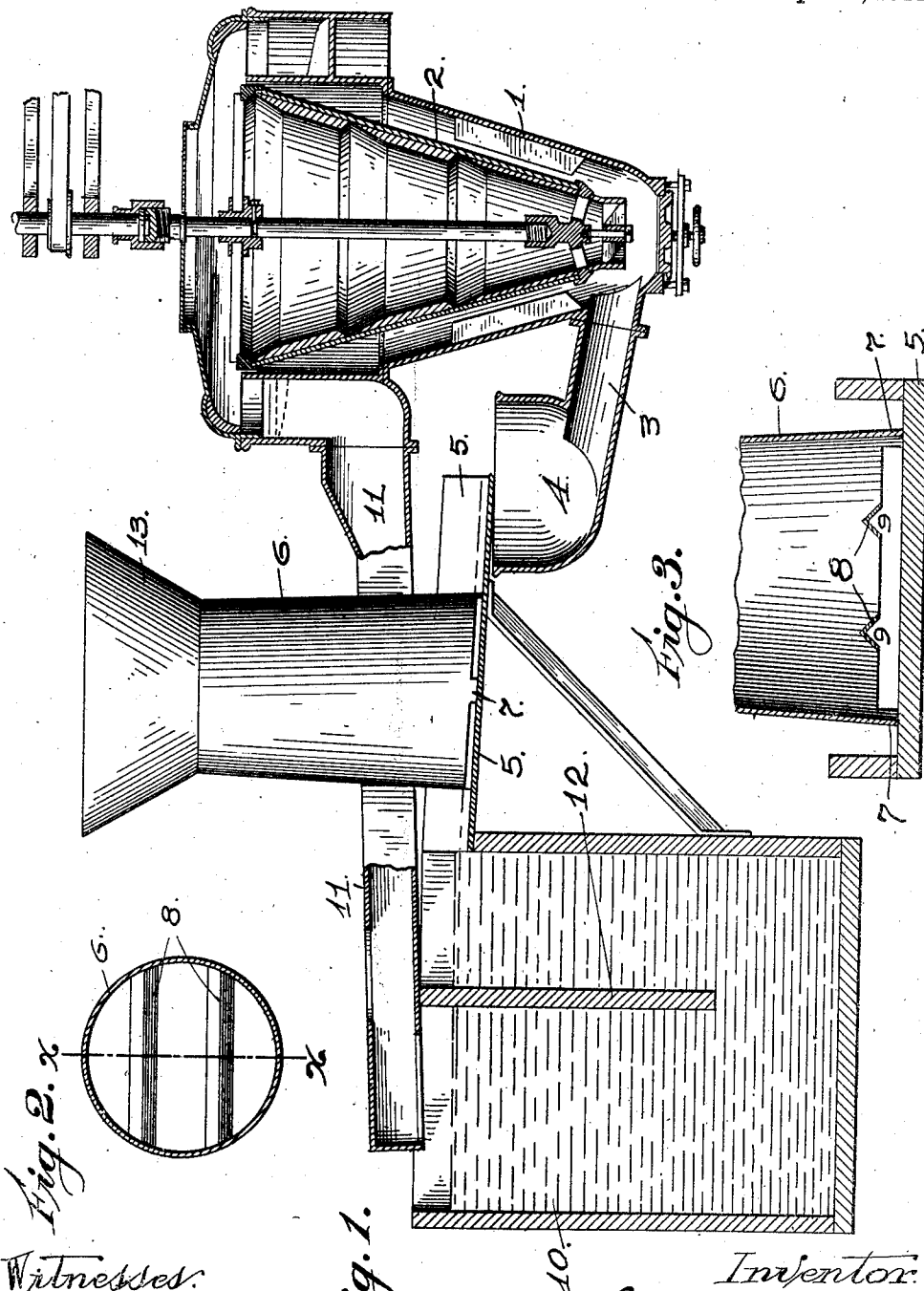


A. PONTEN.
ORE FEEDER FOR SEPARATING MACHINES.
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990,773.

Patented Apr. 25, 1911.



Witnesses:
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Fig. 1.

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by *Wacker*
Att'y

UNITED STATES PATENT OFFICE.

ANDERS PONTEN, OF BERKELEY, CALIFORNIA, ASSIGNOR TO CALIFORNIA GOLD SAVING MACHINE COMPANY, A CORPORATION OF CALIFORNIA.

ORE-FEEDER FOR SEPARATING-MACHINES.

990,773.

Specification of Letters Patent.

Patented Apr. 25, 1911.

Application filed June 1, 1910. Serial No. 564,493.

To all whom it may concern:

Be it known that I, ANDERS PONTEN, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented certain new and useful Improvements in Ore-Feeders for Separating-Machines, of which the following is a specification.

The invention is mainly designed for the feeding of what is known as "black sand" to a centrifugal separator for the recovery of the gold values therefrom, which material is delivered to the feeder in substantially a dry condition; the object of the invention being to deliver the material to be treated into the separator in accordance with the water supply thereto, the said water supply acting as a medium for gradually and automatically delivering the material to the separator.

To comprehend the invention, reference should be had to the accompanying sheet of drawings wherein—

Figure 1 is a vertical sectional view of a centrifugal separating apparatus with the invention applied thereto, and illustrated as situated within the downwardly inclined sluice-way communicating with the ore receiving hopper for the separator. Fig. 2 is a horizontal sectional plan view of the container for the material to be treated. Fig. 3 is a broken vertical sectional view illustrating the container mounted within the sluice-way, said view being taken on line $x-x$ Fig. 2 of the drawings.

In the drawings, the numeral 1 is used to designate an outer stationary bowl of a centrifugal separating apparatus, and 2 the circulator mounted therein for rotation. Material for treatment is delivered into the bowl 1 by means of the runway 3, which leads from a receiver 4.

Within an inclined sluice-way 5, discharging into the receiver 4, is located a container 6, which is of cylindrical form and outwardly flared toward its lower end. This container is an open bottomed one, and, in the present case, is held a slight distance above the surface of the sluice-way 5 by means of the downwardly extended supports 7.

Within the bottom of the container 6 is arranged a plurality of inverted V-shaped

parallel ribs 8, which, when the container is positioned within the sluice-way 5, form longitudinally disposed passages 9 for the flow of water through the container and the material contained therein.

Water may be supplied to the sluice-way 5 in any suitable manner, but for the purpose of the present invention the same is illustrated as coming from a supply tank 10, the water level in which is above the sluice-way 5, so that the same overflows into the said sluice-way. The supply tank as arranged receives the tailings and discharge water from the circulator 2, which discharges therefrom into the trough 11, and are conveyed thereby and deposited into the tank 10 to one side of the partition wall 12. As the water from the head supply flows over the sluice-way 5, the same contacts with the exposed side walls of the material held within the container 6, which material rests on the surface of the sluice-way, and gradually undermines and cuts away the same, the water flow conveying the released material into the receiver 4. At the same time, a portion of the water flowing into the sluice-way 5 will pass through the channels or passages 9 and acting on the central portions of the held material cuts away the same and carries such removed material into the receiver 4. As the bottom portion of the retained material is cut away or undermined, the entire body of material, owing to the outward flare of the container 6, will gradually give downwardly, due to the weight thereof, so that a new surface is exposed and presented to the action of the flowing water. The feed of material into the receiver 4 is thus automatically accomplished by the flowing body of water passing through the sluice-way 5 and beneath the container 6, thus giving a constant feed of material to be treated. The side cuts given to the wall or embankment of held material, likewise the centrally disposed cut, by the flow action of the stream passing through the sluice-way, cause a gradual removal or displacement of the mass of confined material, the feed of such released material to the separator being controlled by the quantity and head pressure of water flowing through the sluice-way.

To the upper end of the container 6 is secured a receiving hopper 13, which receives

the material delivered into the container 6, which container during the operation of the separator should be maintained full of sand to be treated, the lower portion of which rests on the surface of the sluice-way 5.

Practical operation has demonstrated that to obtain the best results, one or more ribs 8 longitudinally disposed relative to the sluice-way 5 should be secured within the open bottom of the container 6, for without the employment thereof the feed of the held material is a slow one and a tendency exists for the material to pack within the container. However, by using one or more ribs 8, depending on the size of the container, a central cut is given to the material, which acting in conjunction with the side cut causes a gradual cave-in of the material and displacement thereof.

In operation, as the downwardly flowing stream encounters the obstructing wall of material between the bottom edge of the container and the surface of the sluice-way, the same is diverted to each side of the sluice-way, and thus acts with a cutting effect on the outer side portions of the embankment, gradually cutting inwardly or undermining the exposed face of the wall, which as undermined is carried off by the flowing stream and replaced by a lowering of the body within the container.

The described feeder is simple of construction, positive in its action, and dispenses with the vibrating means commonly employed to prevent banking and causing the downward feed of material, besides giving a constant feed of material in proportion to the body of wash water required for use in the circulator.

Having thus described the invention what

is claimed as new and desired to be secured by Letters Patent is—

1. In a feeder for separating machines, the combination with an inclined sluice-way, of an open bottom container held therein a slight distance above the bottom of the sluice-way, one or more ribs located within the open bottom of the container and forming water-ways longitudinally disposed relative to and in close proximity to the surface of the sluice-way, and means for admitting water into the sluice-way and longitudinally through the passage-ways formed by said ribs for acting against and removing the exposed portion of the material within the container.

2. In a feeder for the described purpose, the same comprising an inclined sluice-way, of an opened bottomed outwardly flared vertically disposed container held within the sluice-way a slight distance above the surface thereof, supports downwardly extended from the container, a plurality of inverted V-shaped ribs arranged in the bottom of the container to form longitudinally disposed passages or water-ways in close proximity to the surface of the sluice-way, and means for supplying water to the said sluice-way and longitudinally through the passages formed by said ribs for acting against and removing the exposed portion of the material projected beyond the open bottom of the container.

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

ANDERS PONTEN.

Witnesses:

N. A. ACKER,
D. B. RICHARDS.