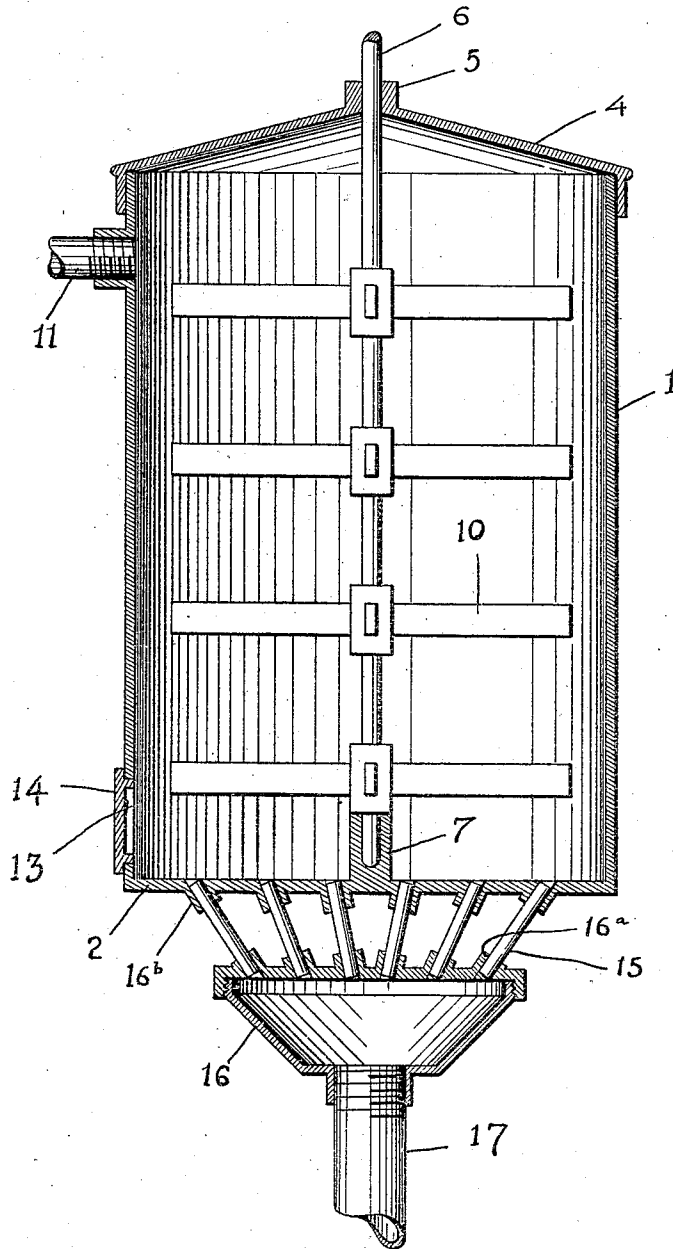


W. R. GRAHAM.
GOLD AND SAND WASHER.
APPLICATION FILED JUNE 22, 1908.

929,586.

Patented July 27, 1909.



Witnesses
Frank Trimmer
M. E. Lewis

Inventor
W. R. GRAHAM

By *H. Everett Co.*
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM R. GRAHAM, OF PHOENIX, ARIZONA TERRITORY.

GOLD AND SAND WASHER.

No. 929,586.

Specification of Letters Patent.

Patented July 27, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM R. GRAHAM, a citizen of the United States of America, residing at Phoenix, in the county of Maricopa and Territory of Arizona, have invented certain new and useful Improvements in Gold and Sand Washers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a gold and sand washer and the object thereof is to provide a washer of such class in a manner as hereinafter set forth for separating light particles from heavy material and whereby water is employed as the washing medium which causes the disintegration of the material operated upon so that the light material will be held in suspension so as to pass from the washer or so that the light material will accumulate upon the heavy material.

With the foregoing and other objects in view the invention consists of the novel construction, combination, and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawing which forms a part of this specification.

The drawing illustrates in vertical section a washer in accordance with this invention.

Referring to the drawing, 1 denotes an open top cylindrical receptacle or tank closed through the medium of a lid or cover 4 having a central boss or bearing 5 for a vertically extending shaft 6.

The reference character 2 denotes the bottom of the tank and approximately centrally thereof is an integral projection constituting a bearing socket 7 for the lower end of the shaft 6. The socket 7 projects from the upper face of the bottom 2. The shaft 6 is rotatable and is operated by any suitable means (not shown) and the said shaft 6 has attached thereto radially disposed blades or agitators 10.

Near the top of the receptacle or tank 1 there is arranged an outlet or overflow pipe 11, said pipe projecting laterally from the receptacle or tank 1 and communicating with the interior of the latter. The receptacle or tank 1 in close proximity to the bottom 2 is provided with an entrance opening or doorway 13 which is closed through the medium of a hinged door 14.

Arranged below the bottom 2 of the receptacle or tank 1 is a tapering drum 16 which communicates with a water supply through the medium of the pipe 17, the latter open-

ing into said drum 16 at the bottom thereof. The pipe 17 is suitably connected to the bottom of the drum 16. The top of the drum 16 is formed with upwardly extending and outwardly inclined nipples 16^a, these nipples opening into the drum 16 and from the nipples 16^a project a plurality of radiating pipes 15, these latter being connected to the nipples and are also connected to inwardly inclined depending nipples 16^b which are formed integral with the bottom 2 and open into the receptacle. By setting up the drum 16 and the pipes 15 in the manner as stated, water is projected upwardly into the receptacle or tank 1 with considerable force.

The operation of the washer is as follows: The lid or cover is removed and the material to be washed placed in the receptacle. After the material has been placed in the receptacle or tank 1 and the cover positioned upon the tank, water is admitted to the tank through the pipes 15, the shaft 6 is then rotated thereby placing the agitators into operation. As the water passes up through the material, the streams of water in communication with the agitators will disintegrate the material and the light particles will rise to the top from where they can be collected or passed off through the pipe 11. The heavy material or residue can be removed through the openings 13.

Having now described my invention what I claim as new, is:—

1. In a washer for the purpose set forth, a tank having a water outlet, depending and inwardly inclined nipples formed integral with the bottom of the tank and opening into the tank, a rotatable shaft journaled in said tank and provided with laterally disposed agitators, an inverted cone-shaped drum arranged below the bottom of the tank, and outwardly inclined nipples formed integral with the top of said drum and opening into the drum, a water supply pipe communicating with said drum through the bottom thereof, a series of water conducting pipes inclined throughout their length, said pipes extending upwardly and inclining outwardly and radially disposed with respect to the axis of the top of said drum.

2. In a washer for the purpose set forth, a tank having a water outlet, depending and inwardly inclined nipples formed integral with the bottom of the tank and opening into the tank, a rotatable shaft arranged within said tank and provided with laterally dis-

posed agitators, means to constitute a bearing for the lower end of said shaft, said means formed integral with the bottom of the tank, said shaft having its upper end projecting from the top of the tank, an inverted cone-shaped drum arranged below the bottom of the tank, and outwardly inclined nipples formed integral with the top of said drum and opening into the drum, a water supply pipe communicating with said drum through the bottom thereof, a series of water conducting pipes inclined throughout their length and connected at their upper ends to

the nipples depending from the bottom of the tank and at their lower ends to the nipples projecting upwardly from the top of the drum, said pipes extending upwardly and inclining outwardly and radially disposed with respect to the axis of the top of said drum. 15

In testimony whereof I affix my signature in the presence of two witnesses. 20

WILLIAM R. GRAHAM.

Witnesses:

J. M. BURSON,
Mrs. LOUIS FORD.