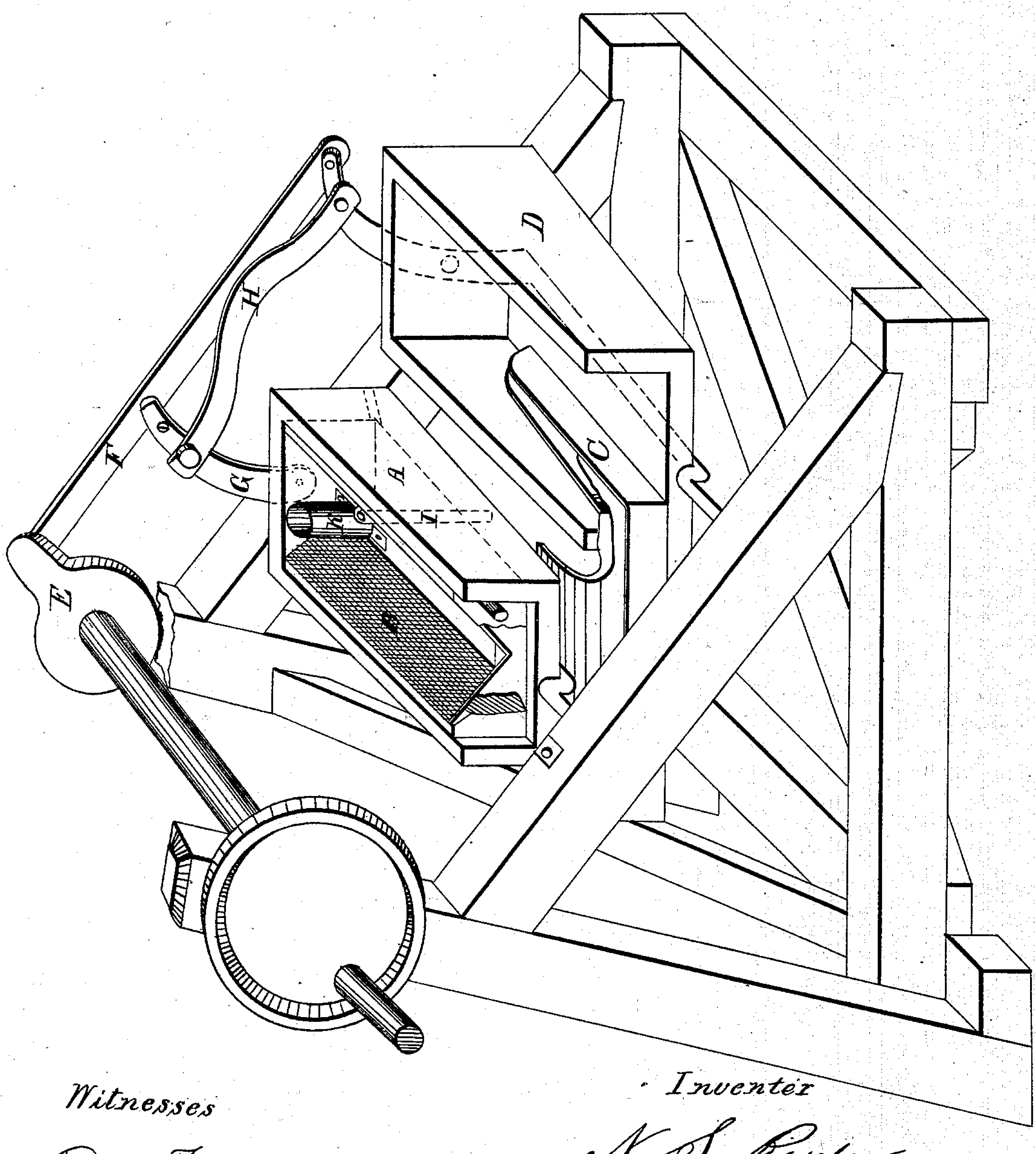
N. S. RYDER.

Ore Washer.

No. 69,030. Patented Sept. 17, 1867.



Witnesses

Ben Field
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Inventor

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United States Patent Office.

NEWELL S. RYDER, OF GREENLAND, MICHIGAN.

Letters Patent No. 69,030, *dated September* 17, 1867.

IMPROVED APPARATUS FOR WASHING ORES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, NEWELL S. RYDER, of Greenland, in the county of Ontonagon, and State of Michigan, have invented a new and useful improvement in Machines for Washing Gold and other Metals; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which the machine is represented in perspective.

A is a box or receiver suspended upon a strong triangular frame by an axle so arranged that the head of the box A (known among miners by the name of a "buddle,") is from one-half of an inch to one inch lower than the foot. The axle is so attached at the head and foot of the buddle that the centre of oscillation is higher at the head than at the foot, by which arrangement the ejectment of the superfluous water and material is effected at the most desirable point of the oscillation. The inclination from head to foot retains the heavier metallic particles near the head, while the lighter materials are carried away at the foot. Motion is communicated to the buddle from a crank, E, or its equivalent, through a connecting-rod, F, pivoted to the bent arm G. Where a series of buddles is employed the arms G are connected by a connecting-rod, H, and the arm G, attached to the head of each buddle, should have such a curvature that the tangent drawn from the middle of the arc described by the oscillation of the wrist-pin, to which the connecting-rod is attached, shall be parallel to the plane upon which the buddles are suspended. B is a sieve of wire cloth, so supported as to be able to sustain the weight of material contained in the buddle. This sieve is arranged in the form of a V or W, or a continued series of similarly-inclined planes. The tail of the sieve is closed by an end board, and the frame supporting the sieve in the box A is so arranged that the tail of the sieve shall be lower than the head. The purified metal is drawn from the sieve through a pipe, I, passing through the bottom of the buddle. This pipe is covered by a larger pipe, K, which extends above the water, and downwards to within about one-half of an inch of the opening of the smaller pipe I. The material to be washed is conveyed by a launder into the head of the buddle A, and for its further purification it may be carried, after making its partial deposits in the buddle A, by the trough C to the head of the buddle D, and so on indefinitely. The material passing through the sieve is carried through an orifice in the head of the buddle to a finishing-buddle.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. I claim a buddle A, so suspended and operated that while it has a lateral rocking motion it shall at the same time have a longitudinal oscillation, substantially as and for the purpose set forth.

2. A buddle, when constructed and arranged so that the floor is higher at the tail than at the head, and so suspending it that in rocking laterally the axis of oscillation shall be higher at one end than at the other, substantially in the manner set forth.

3. I claim the arrangement of the sieve B, box A, and pipes I and K, substantially as set forth.

NEWELL S. RYDER.

Witnesses:

A. F. TUCKER,
E. L. PARKER.