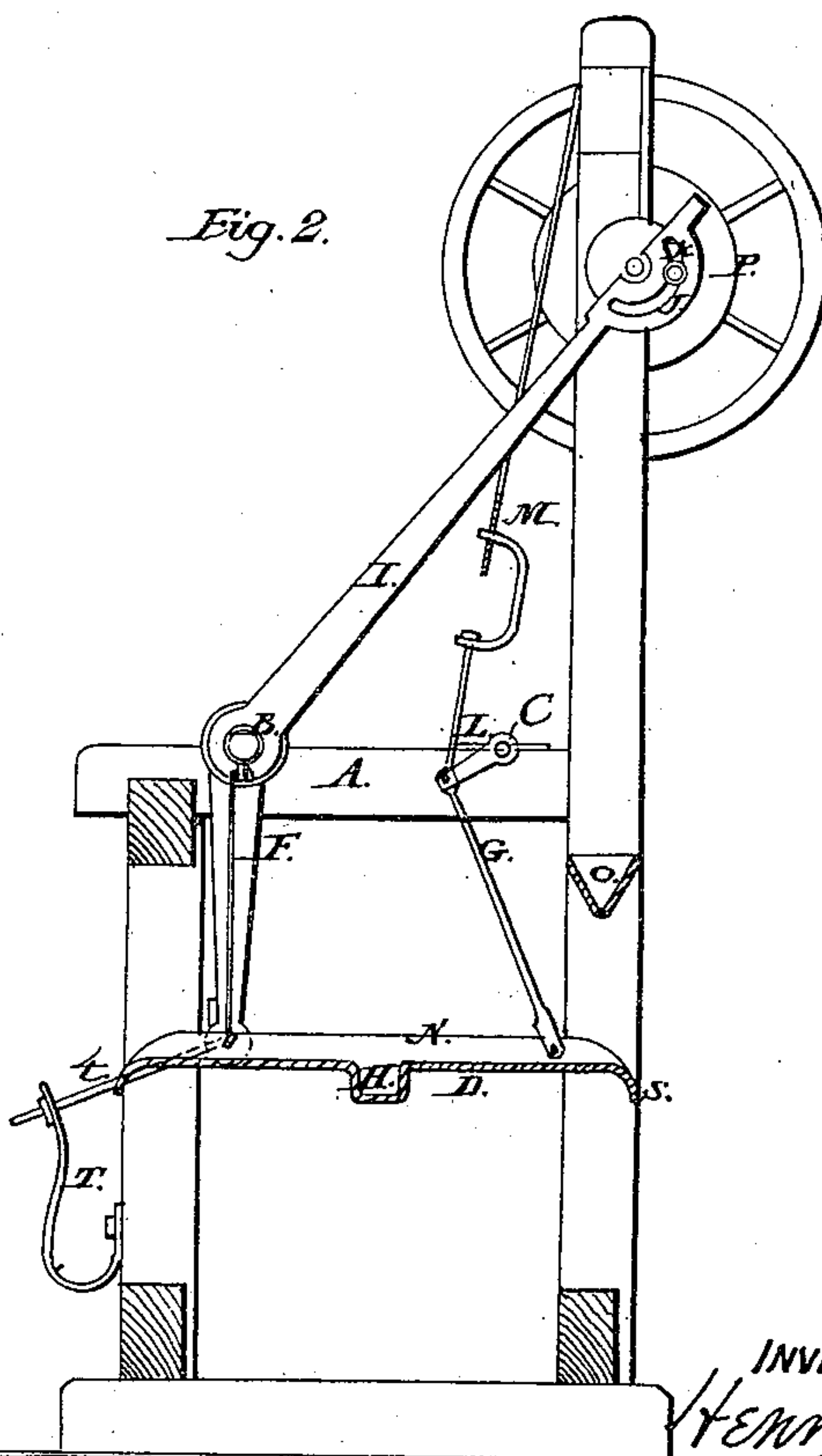
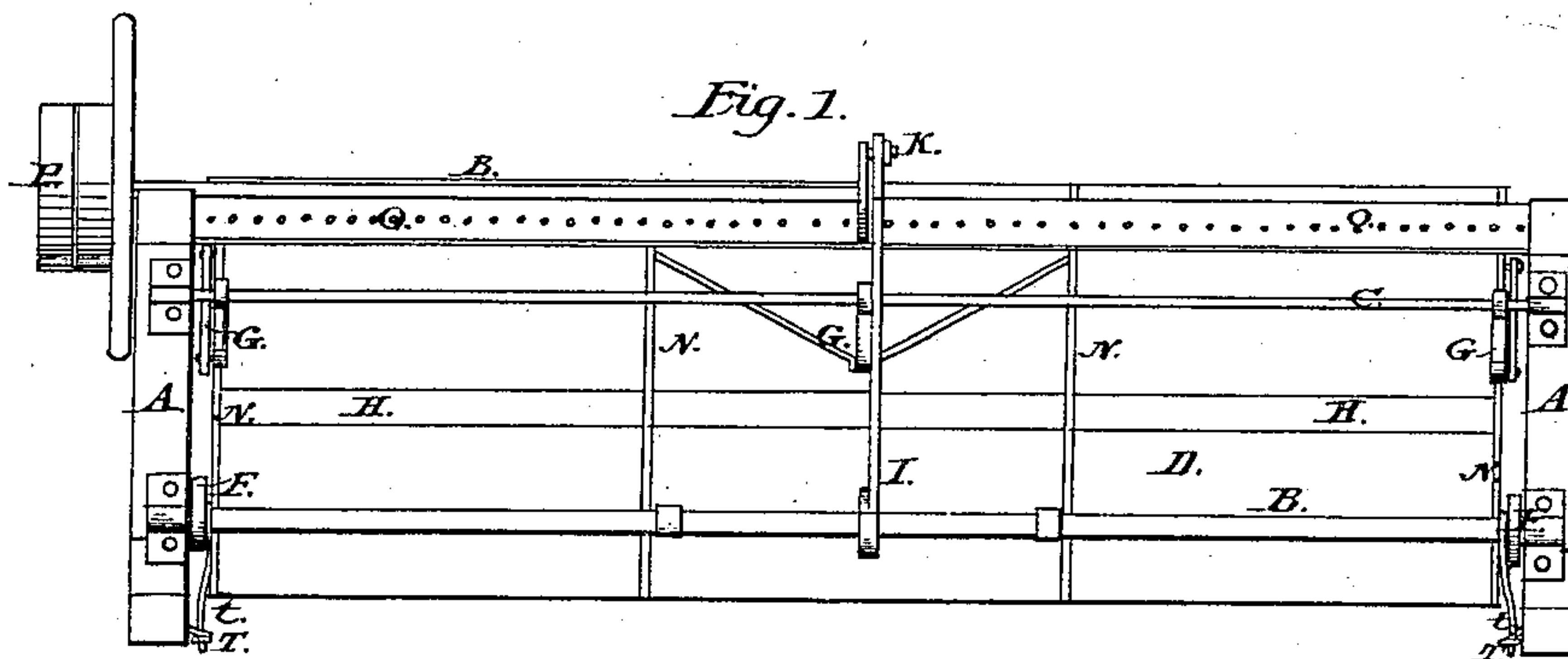


H. WESTON & G. C. LANGTRY.
CONCENTRATOR FOR DRESSING ORES.

No. 83,231.

Patented Oct. 20, 1868.



WITNESSES:

Geo. H. Strong
J. L. Boone

INVENTOR:

Henry Weston
By this atty.
Dewey & Co.

United States Patent Office.

HENRY WESTON AND GEORGE C. LANGTRY, OF DAYTON, NEVADA.

Letters Patent No. 83,231, dated October 20, 1868.

IMPROVED CONCENTRATOR FOR DRESSING 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 we, HENRY WESTON and GEORGE C. LANGTRY, of Dayton, county of Lyon, State of Nevada, have invented an Improved Concentrator; and we do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention or improvement without further invention or experiment.

The nature of our invention is to provide an improved concentrator for concentrating the sulphurets contained in ores; also, for saving such amalgam as generally escapes, and runs to waste, during the process of amalgamating.

Our invention consists of a vibrating or oscillating table, copper-lined, and having a depression or sink in its centre. The ore is discharged upon the table near its centre, and, by a rapid vibratory motion imparted to the machine, the valuable portion is discharged at one side, and the sand and debris, or worthless portion, at the opposite side. The table is suspended to a frame by a horizontal rock-shaft and hangers at one side, and a parallel adjusting-shaft, with depending arms, at the opposite side. A beam is keyed to the centre of the rock-shaft, the opposite end being curved and slotted, and in which a crank-pin works.

To more fully illustrate and explain our invention, reference is had to the accompanying drawings, and letters marked thereon, of which—

Figure 1 is a plan.

Figure 2 is an end elevation.

A A represent a suitable frame, across which is placed the longitudinal rock-shaft and adjusting-shaft B C. The table D is suspended to these shafts by hangers, F F, from the rock-shaft, and jointed arms, G G, from the adjusting-shaft, and is copper-lined, and provided with a longitudinal sink, H, which is partially filled with quicksilver, in order to more readily secure the passing amalgam.

I is a beam, keyed to the centre of the rock-shaft, having a curved slot, J, in which works a crank-pin, K, thereby giving to the table a swinging motion.

To the adjusting-shaft is attached, by an arm, L, a shackle-rod, M, which is confined to the beam above, for raising and lowering the edge of the table, as desired. Depending rods are also attached to the said arm, and pass down to the cross-bars N N of the table, to which they are attached.

A v-shaped box or trough, O, with a perforated bottom, is placed at one side of the table, attached to

the frame-work, and is adjustable, so as to allow the water to fall nearer or more remote from the edge of the table. In this trough, water is introduced, and is allowed to drip upon the table.

The ore or pulp is received upon the table near the centre, and the driving-power applied by a belt connected to the pulley P, which is placed upon the driving-shaft R, at the end of which is the crank-pin K.

By this means, an oscillating motion is had, which carries the sulphurets or heavier particles of ore over the side of the table at S, and discharges the sand and debris at the opposite side, thus separating the light from the heavy or valuable portion of the material to be concentrated, while the waste amalgam is received and retained in the sink in the centre of the table.

In order to produce the desired results, it is intended that the machine shall be operated quite rapidly, to give it the vibration necessary to carry the sand and water off at one side, and the sulphurets at the opposite side, and, to impart a quicker return-motion, curved springs, T T, are attached to the frame, through the upper ends of which pass rods, t t, having set-nuts, to give greater or less tension to the springs, as desired.

Having thus described our invention,

What we claim, and desire to secure by Letters Patent, is—

1. A copper-lined table, D, with a longitudinal depression, O, and imparting to the said table a rectilinear alternate motion by means of the crank-pin K, working in the curved slot J, or their equivalents, substantially as and for the purpose described.

2. The manner of suspending the table to the rock-shaft and adjusting-shaft, by the hangers F F, jointed arms G G, and the beam I, for operating the said rock-shaft, substantially as described.

3. The shackle-rod M, attached to the arm L of the adjusting-shaft, for raising and lowering the edge of the table, and the springs T T, constructed and arranged to operate substantially as and for the purposes specified.

In witness whereof, we have hereunto set our hands and seals.

HENRY WESTON. [L. s.]
GEO. C. LANGTRY. [L. s.]

Witnesses for LANGTRY:

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