

(Model.)

O. CURRIER.
Ore Separator.

No. 233,661.

Patented Oct. 26, 1880.

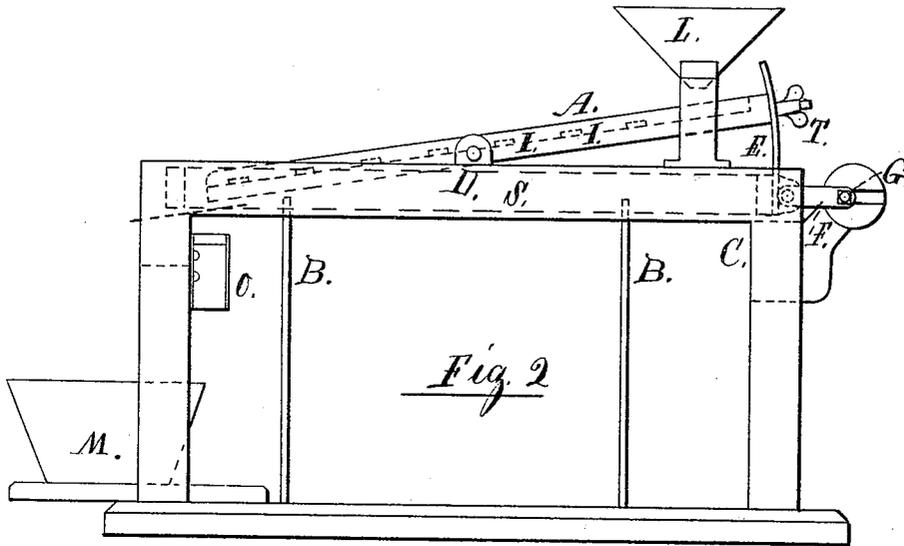
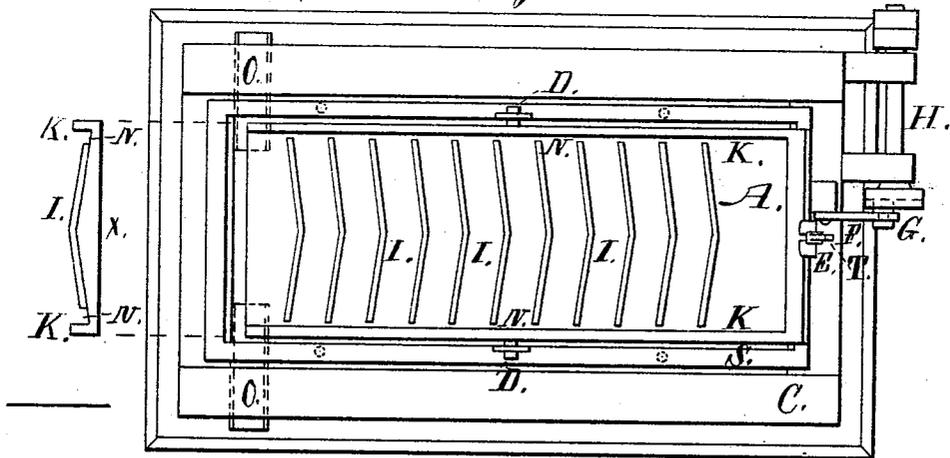


Fig. 1



Witnesses
Joseph H. Cook
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UNITED STATES PATENT OFFICE.

OSCEOLA CURRIER, OF NEWARK, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENT, TO WM. C. BOYLAN, OF SAME PLACE.

ORE-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 233,661, dated October 26, 1880.

Application filed March 2, 1880. (Model.)

To all whom it may concern:

Be it known that I, OSCEOLA CURRIER, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Ore-Separators, of which the following is a specification.

My invention relates to dry separation of gold from masses of dirt, sand, powdered quartz, or ore; and it consists in an inclined table or tables hung on a center with a series of stops or separators, and operated by suitable mechanism giving it a vibratory motion, and having the gold-bearing material conveyed to it in a continuous feed, and disposed of in a continuous flow, so that the gold shall pass off in one direction and the dirt in another, with no banking, or obstruction, or stopping to gather the concentration.

Figure 1 is a plan having a section cut from the rear end, and half inverted to show the stops and the lateral inclination of the table. Fig. 2 is a side elevation.

The table A is hung in a suitable frame, S, supported on elastic rods B, and moves in the principal frame C. The table is hung near the center in bearings D, so that the desired inclination may be given to it, and it is held in position by the lock-connection (the thumb-screw T) with the standard E; or some other locking device may be employed in place.

In some instances it may be needful to turn the table over endwise on the trunnions to detach any gold that may have collected on the table in front of the stops. With the front end of the table are connected a pitman, F, and crank G, operated by the driving-shaft H, which give a longitudinal vibratory motion to the table, the rods B allowing of this vibratory motion.

On the table are fixed a series of diagonal bars or stops, I, rising one-fourth inch, more or less, above the surface, declining, as a single set, from one side, or as a double set from the center, each way toward the outside, as seen in Fig. 1. The ends of these stops approach within a half-inch, more or less, of the flanged side K of the table. The table is made sloping from the center both ways, as seen in the drawings; or, where there is but a single set of stops, as above referred to, it will

slope from one side. The table has thus a double declination longitudinally and laterally, and in addition to the longitudinal vibratory motion it may be made to vibrate laterally.

The gold-bearing material is fed from the hopper L, or some other source, falling on the table at the center or highest end of the stops, and the motion carries it down against the stops, but will not allow it to remain or bank there, for it will be reacted a little way up the plane, keeping it constantly shaken up, in which action the dirt, sand, &c., being lightest, will rise to the top and be carried over the stops, one after another, until it falls from the end of the table into the box M; but the weight of the gold will keep it close to the table, and, striking the stops by the motion, it will be carried along them out into the channels N at the sides of the table, and be finally discharged into the box or boxes O. These tables will be made in such length as will be found best for the purpose of gathering all the gold, some of which will be carried with the refuse over the upper stops; or a series of tables may be arranged on descending planes to receive the earth as it falls from the table or tables above it, and repeat the operation until all the gold is saved; and the gold portion, containing still a measure of earthy matter, may be put again over a table to further reduce the percentage of this refuse material.

By the construction of this table and by the agitation of the materials, I effect a separation of gold from dust or sand by a simple and natural law. The whole mass being agitated prevents banking, while the light earthy parts rise and are carried over the stops down the center, and the gold, settling on the table, is carried along the bars to the sides of it and deposited by itself.

In the place of the elastic supporting-rods B, the table may be made to slide in the frame C on ways, and substantially the same result be secured.

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

1. In an ore-separating machine for dry concentration, the double-inclined table A, having

the diagonal stops I, terminating a short distance from the flanges K on the edges of the table, having the passage N, for the continuous flow of the ore into the receptacle O, and
5 leaving the refuse to flow over the end of the machine, in combination with mechanism for vibrating the table, substantially as specified.

2. The double-inclined table A, having the stops I, as described, and suitable mechanism

for vibrating the table, and hung centrally in the sliding frame S, allowing the table to be turned completely over, for the purposes specified. 10

OSCEOLA CURRIER.

Witnesses:

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