

WYCKOFF & FELL. Gold Amalgamator.

No. 24,901.

Patented July 26, 1859.

Fig: 1.

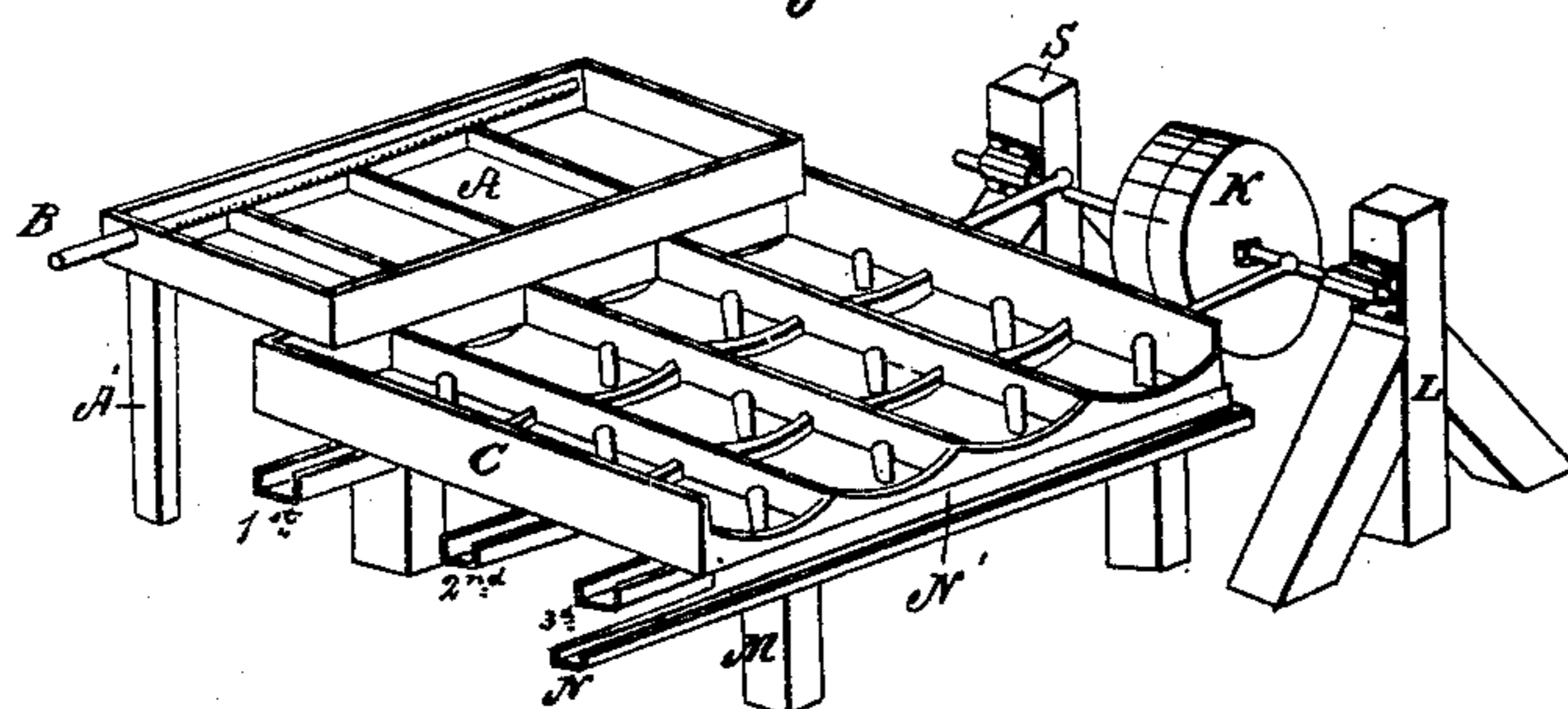


Fig: 2.

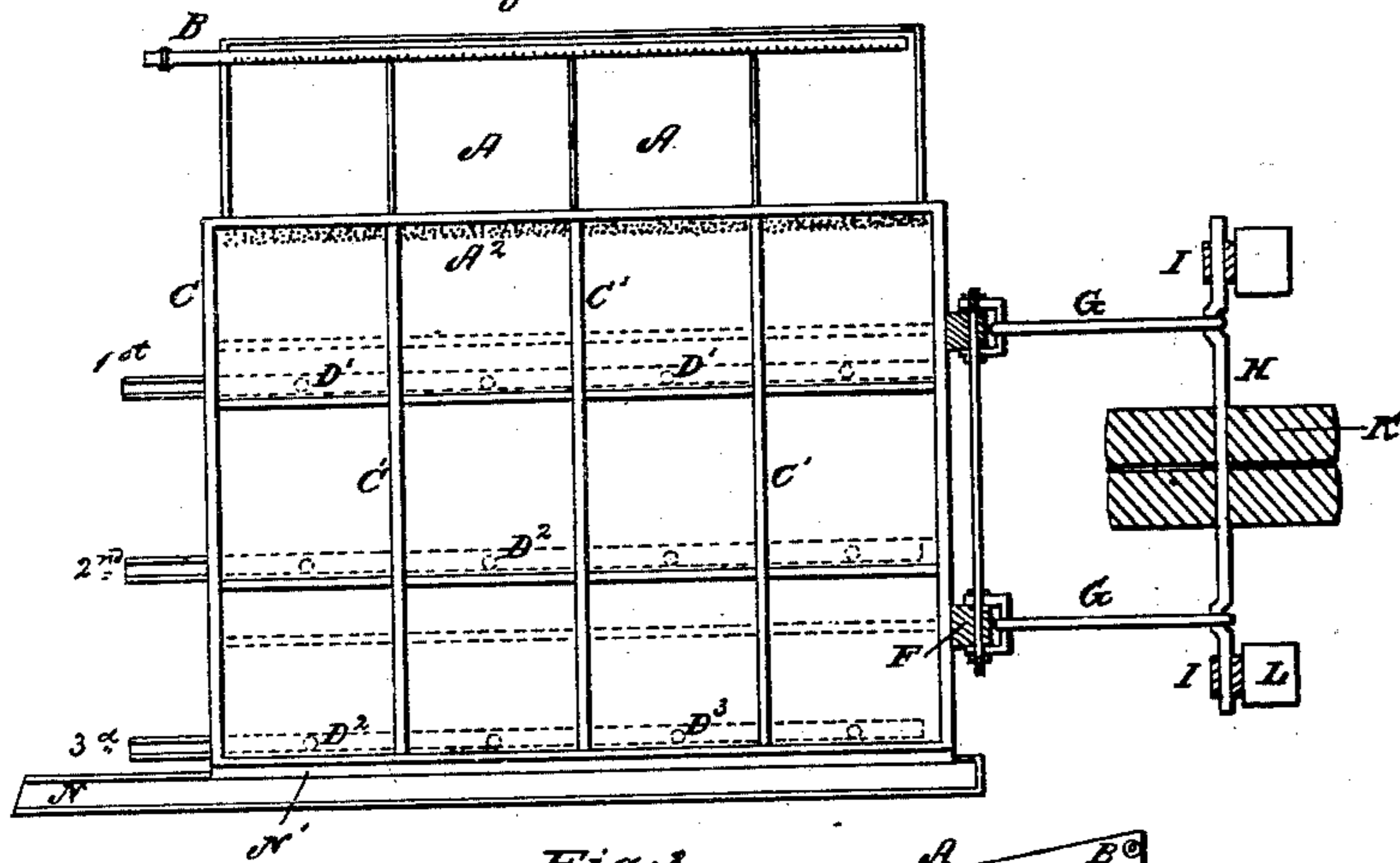


Fig: 3.

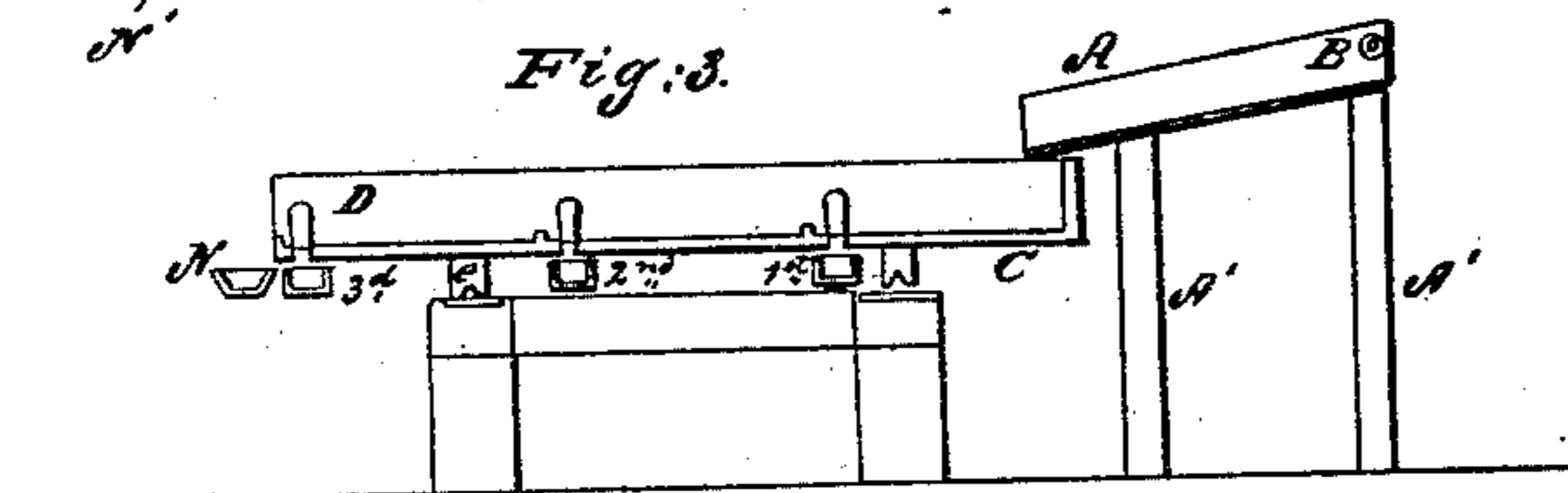
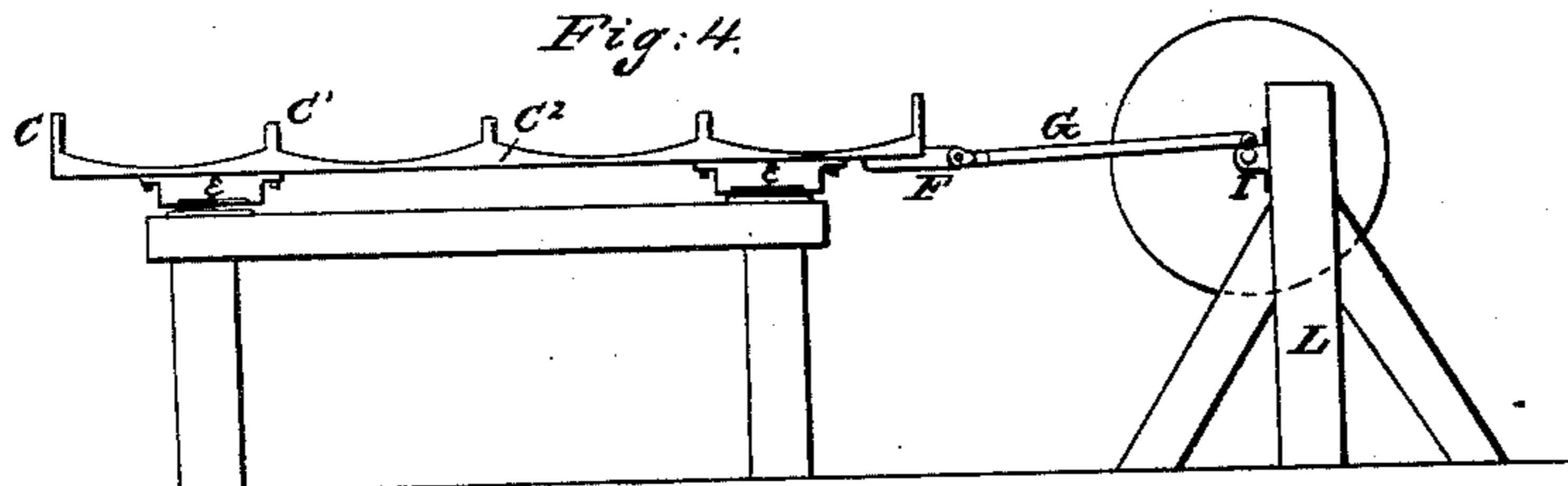


Fig: 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS M. FELL, OF ORANGE MINES, VIRGINIA, AND JOHN N. WYCKOFF, OF BROOKLYN, NEW YORK.

ORE WASHER AND AMALGAMATOR.

Specification of Letters Patent No. 24,901, dated July 26, 1859.

To all whom it may concern:

Be it known that we, THOMAS M. FELL, of Orange Mines, Orange county, State of Virginia, civil engineer, and JOHN N. WYCKOFF, of Brooklyn, Long Island, in the county of Kings, New York, have invented certain Improvements in the Concentration or Reduction of Poor Auriferous Ores or Sands, protected by caveat filed in the secret archives of the Patent Office, one dated July 9, 1857, and one dated July 10, 1858; and we hereby declare the following to be a full and exact description of our said invention.

The sole object of this invention is to convert poor gold, silver and other ores, or sands from which the metals have been partially removed, into rich sand or deposits—capable of being again worked over at a profit—by any of the ordinary known means of reduction for the produce of the metals.

To carry out our invention we construct our apparatus or concentrator as follows:

Figure 1, perspective view; Fig. 2, plan; Figs. 3 and 4, side elevations.

A, hopper divided into as many partitions, as rows of boxes in concentrator supported by the frame work (A'); A², screen; B, water pipe perforated with a number of holes for supply of water; C, concentrator, consisting of an exterior casing marked (c), with partitions forming a series of boxes as many as may be required, the cross partitions C' being high say 4 inches and the partitions C² only one inch from the curved bottom (C³); D, discharge plugs; E, metal slide boxes; G, driving rod; H, crank shaft; I, plummer blocks; K, loose and tight pulleys, all supported by the wood frame (L); M, frame work supporting the blocks (E); 1, 2, and 3, discharge troughs; N, waste trough.

The mode of operating with this machine is as follows: Poor pounded ore or tailings or refuse containing metals, having been placed in the hopper A into each department; water is let on by the pipe B, which rushes down through the screen A² carrying the ore, into the first series of boxes or

partitions (motion being given at the rate of 120 revolutions per minute to the concentrator by means of the connection F, driving rods G, crank, plummer blocks, and, driving pulleys, (I H and K). After these have become full the ore or rather the lighter portions thereof pass into the second series of boxes, and so on to the third, which when full passes the useless, or light sand and mud away by the trough N. Any degree of concentration may be had by working the machine a longer or shorter time, with a regular supply from the hopper, when the 1st boxes are thought of sufficient richness the plugs in the row D', being of the same degree of quality, are removed, and the highly concentrated ore passed into a proper receptacle by the pipe (1). The next series or row is then similarly discharged by the plugs D² down the pipe (2), and the last series by the pipe (3) which being of different qualities are conducted into separate boxes or receptacles. The seconds sands may if required be again passed over the concentrator, but the thirds is found sufficiently poor not to pay for reconcentration unless had previously from rich ore. The plugs being inserted the machine which has been kept in continual motion is again ready for use.

It is obvious that the above described apparatus or concentrator is susceptible of many modifications. For instance the crank may be substituted by an eccentric, the size and proportion of boxes or partitions, or speed varied; but the essential principle sought to be protected—and which we claim as our invention is—

A concentrator constructed with a series of boxes, or partitions having curved bottoms, communicating one with the other, and driven transversely, for the purpose of separating poor from rich deposit, all as herein described.

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JOHN N. WYCKOFF. [L. S.]

Witnesses:

JOHN S. HOLLINGSHEAD,
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