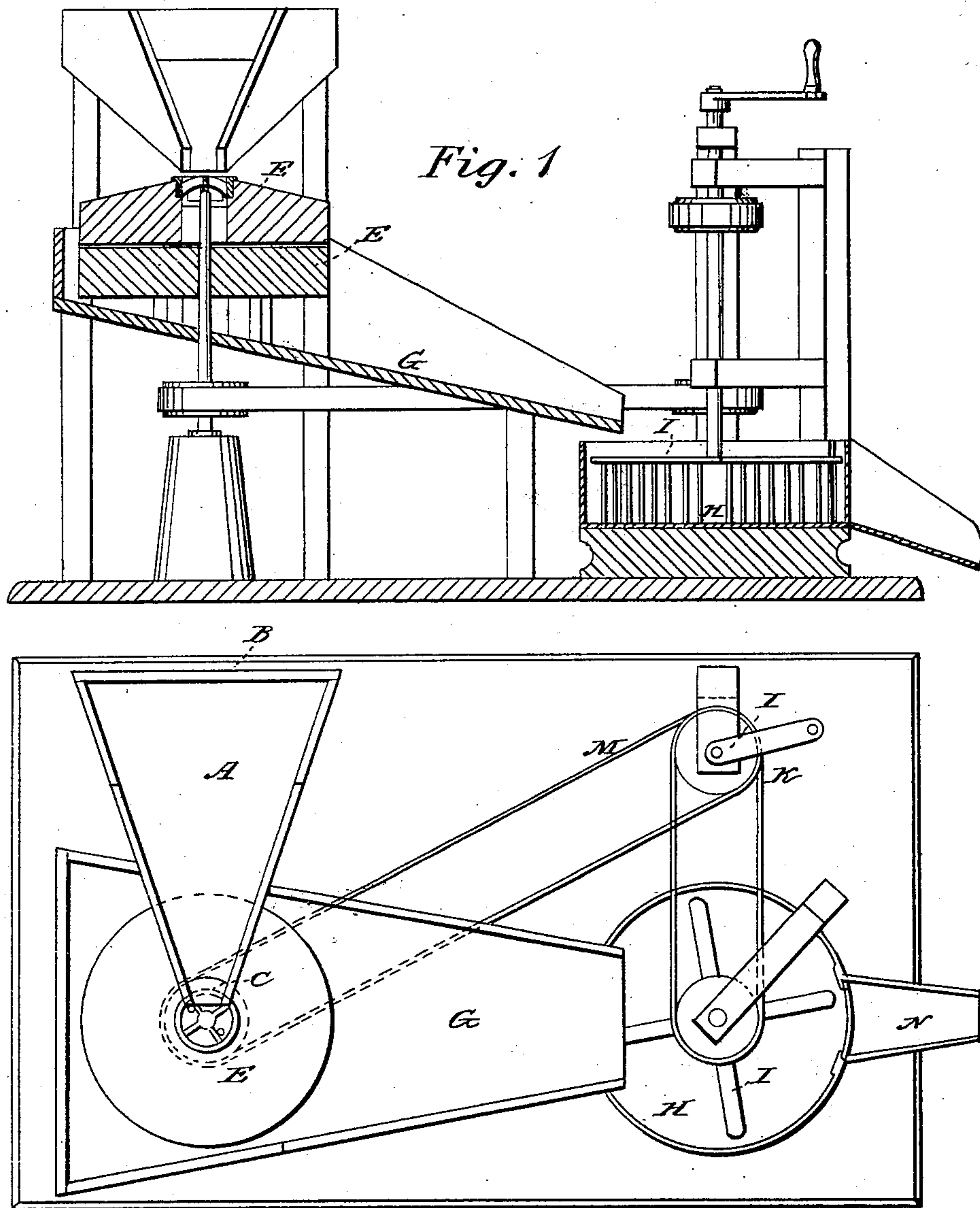


T. BATES.  
Amalgamator.

No. 102,476.

Patented May 3, 1870.



Witnesses:

*M. V. V. V. V.*  
*Wm. T. Brooks*  
*Wm. T. Brooks*

Inventor:

*Thos. Bates.*  
*Per Wm. T. Brooks*  
*attorneys.*

# United States Patent Office.

THOMAS BATES, OF PINOS ALTOS, NEW MEXICO TERRITORY.

*Letters Patent No. 102,476, dated May 3, 1870.*

## IMPROVEMENT IN ORE-SEPARATORS.

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, THOMAS BATES, of Pinos Altos, in the county of Grant and Territory of New Mexico, have invented a new and Improved Ore-Separator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification.

The object of this invention is to provide a simple and efficient arrangement of means for receiving the tailings of gold and other ores from the battery, pulverizing, burnishing, and separating the same.

The invention comprises an arrangement of grinding-mills, and amalgamating apparatus together, and with a battery, all as hereinafter more fully specified.

Figure 1 represents a longitudinal section of my improved arrangement of ore-pulverizing and separating apparatus; and

Figure 2 represents a plan view.

Similar letters of reference indicate corresponding parts.

A represents a receiving-spout to be attached to the battery at B, for the reception of the tailings. It is also to have a screen at the said part B, for separating and throwing off the coarser particles.

At C, it delivers the tailings to a grinding-mill composed of a running and a stationary grinder, E F, either of stone or iron, and arranged similarly to

grain-grinding mills, whereby the said tailings are pulverized, scoured, and burnished, preparatory to delivering through the table or spout G, to the amalgamator H, consisting of a circular receptacle, the bottom and sides of which are made of amalgamating-plates, prepared in the usual way, and a horizontally-revolving rake or stirrer, I, working on a vertical axis, and turned by a belt, K, from the driving-shaft L, which also works the grinder by a belt, M. From the amalgamator, the residue passes off through the spout N.

The teeth of the rake or stirrer do not work close down upon the bottom of the amalgamator.

The table G is also lined with copper and galvanized with quicksilver, whereby gold is saved before going into the amalgamator.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination of the table or spout A, grinding-mill E F, table G, amalgamator H, stirrer I, when constructed, arranged, operated and adapted for application to and use with a battery, all substantially as specified.

THOS. BATES.

Witnesses:

J. B. WOODS,  
WILLIAM GRANT,  
DAVID WINTERBURN.