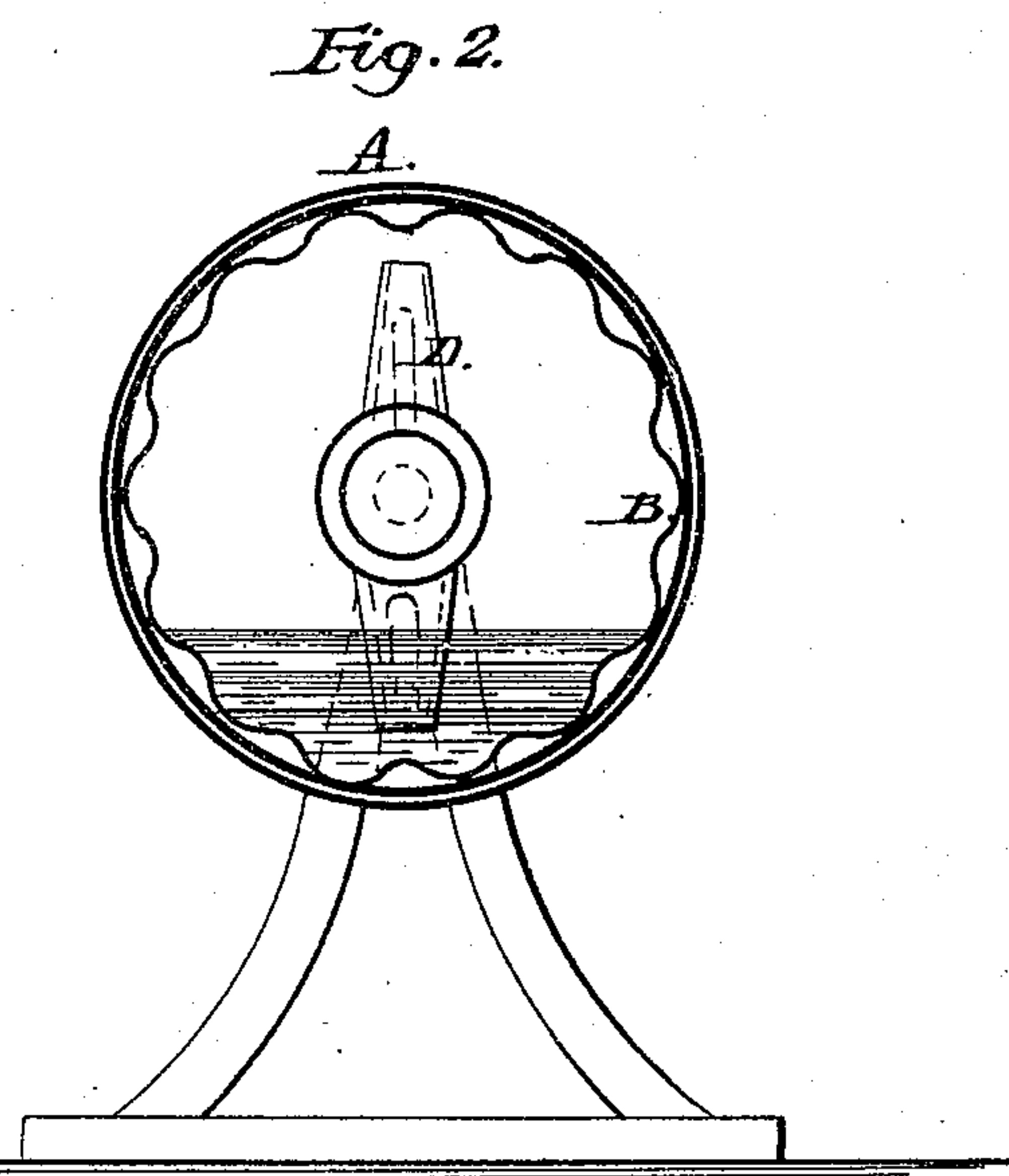
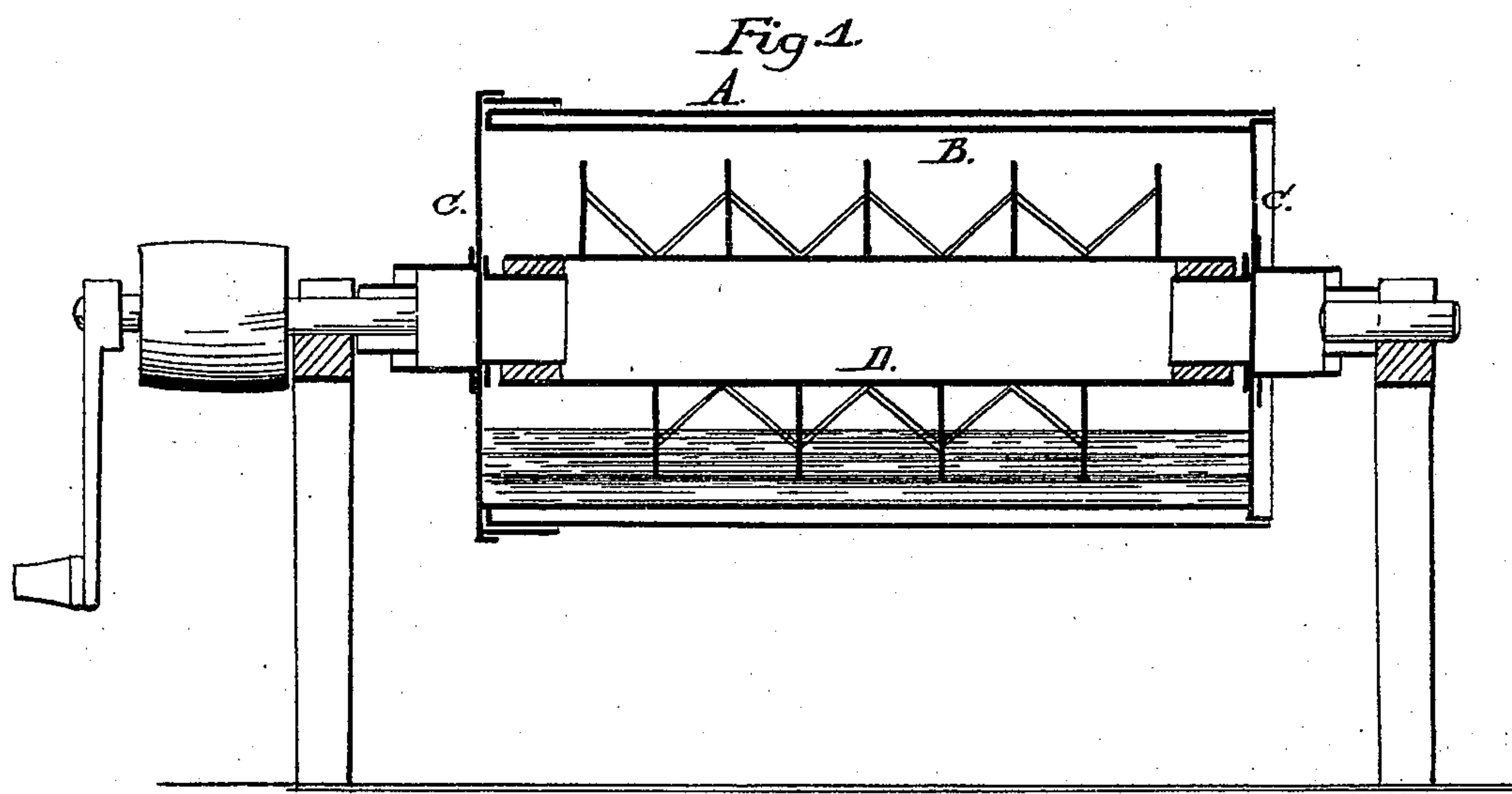


J. H. RAE.
ELECTRICAL AMALGAMATOR.

No. 83,091.

Patented Oct. 13, 1868.



WITNESSES:

W. Hauff
J. Van Santvoorn.

INVENTOR:

Julius H. Rae

United States Patent Office.

JULIO H. RAE, OF SYRACUSE, NEW YORK.

Letters Patent No. 83,091, dated October 13, 1868.

IMPROVED ELECTRICAL AMALGAMATOR

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, JULIO H. RAE, of Syracuse, in the county of Onondaga, and State of New York, have invented a new and useful Improvement in Electrical Amalgamators; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a longitudinal central section of this invention.

Figure 2 is a transverse section thereof.

Similar letters indicate corresponding parts.

This invention relates to an apparatus which I use in carrying out a process for treating auriferous and argentiferous ore, for which a patent was granted to me, February 5, 1867, and which consists in exposing such ores to the combined action of a current of electricity, and of suitable solvents or chemicals, for the purpose of separating from said ores the gold, silver, or other metals contained therein.

The apparatus, which forms the subject-matter of my present invention, consists in a cylindrical drum, lined with corrugated sheet-copper, and provided with two heads, to the inner sides of which is secured a beater, of zinc, in such a manner, that, by introducing into the drum the pulverized ore, a quantity of mercury, and a solution of salt, or any other suitable exciting-liquid, and by revolving the drum, a galvanic current is produced, which effectually assists in separating the gold, silver, or other metal from the gangue.

A represents a drum, made of sheet-iron, or any other suitable material, and provided with a lining, B, of corrugated sheet-copper. Said drum is provided with two heads C, to the inner surfaces of which is attached a beater, D, which is made of zinc, in any desirable form or shape. The connection between the beater and the heads is protected by India rubber, or other insulating-material, so that the beater is insulated from the body of the drum.

From the outer surface of the heads project the gudgeons *a*, which have their bearings in suitable standards, so that a revolving motion can be imparted to the drum by hand or other suitable power.

A door or man-hole in the circumference, or in one of the heads of the drum, gives access to the interior thereof, and serves to introduce or remove the pulverized ore, and the agents used in the process.

In using this apparatus, I introduce a quantity of pulverized ore, an equivalent quantity of mercury, and a quantity of salt water, or other agent capable of exciting a galvanic current when brought in contact with the proper elements. I then close the drum, and, by revolving the same, the pulverized ore is intimately mixed with the mercury, and at the same time a galvanic current is created by the action of the salt-water or other agent on the copper lining and zinc beater, and by the action of this current, the separation of the gold, silver, or other metal contained in the ore, from the gangue, is materially facilitated, as fully described in my Letters Patent of February 5, 1867.

It is obvious that the lining may be made of zinc and the beater of copper, or any other suitable materials may be selected for the two elements of my galvanic battery, without changing the principle of my invention.

Having thus described my invention,

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

The drum A, provided with a lining and with a beater, representing the two elements of a galvanic battery, said beater serving also to bring all the particles of the pulverized ore in intimate contact with the mercury, substantially as herein shown and described.

JULIO H. RAE.

Witnesses:

W. HAUFF,
ERNEST F. KASTENHUBER.