

(No Model.)

G. GRIESCHE.

AMALGAMATOR.

No. 251,110.

Patented Dec. 20, 1881.

FIG. 1.

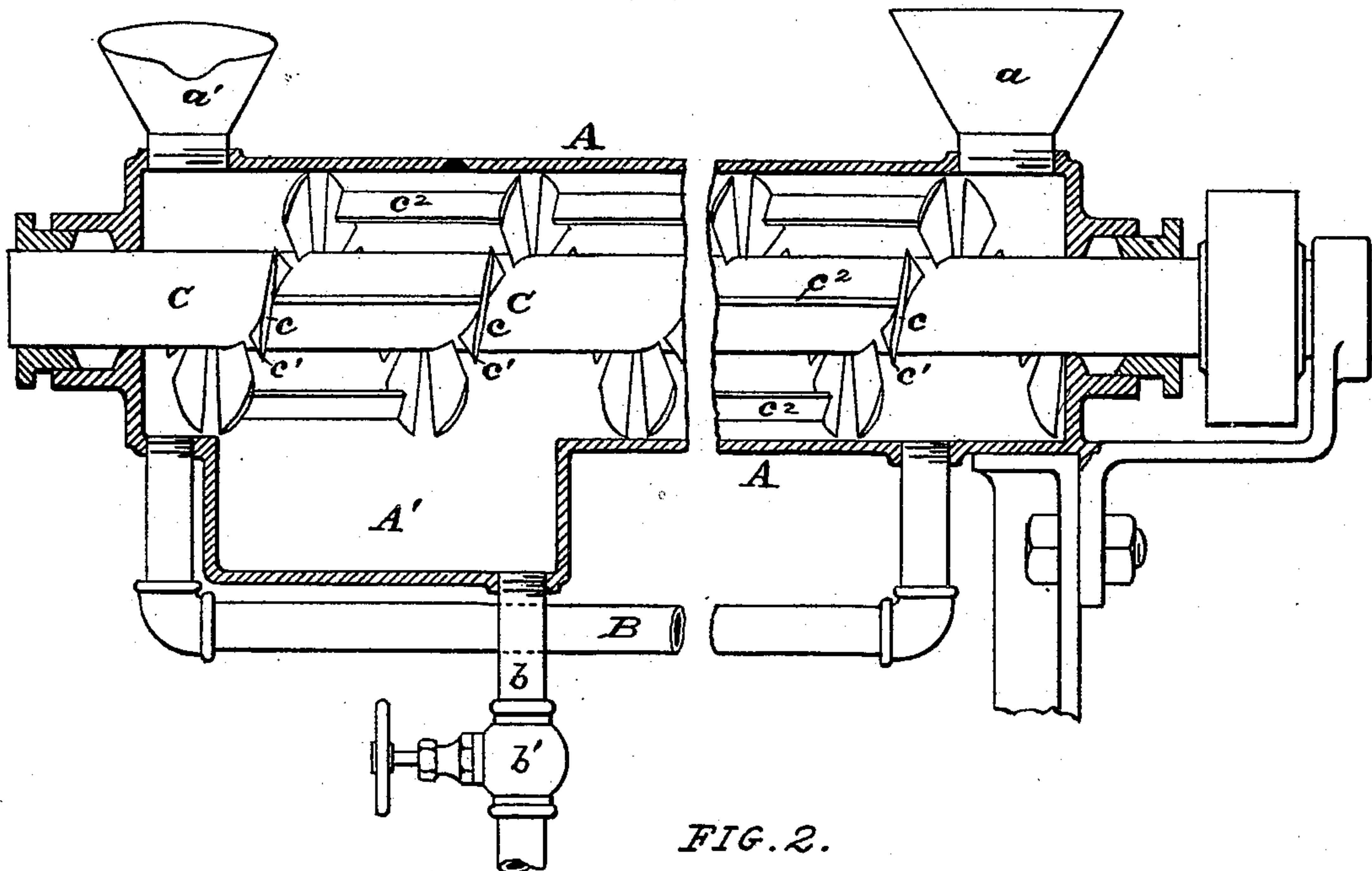
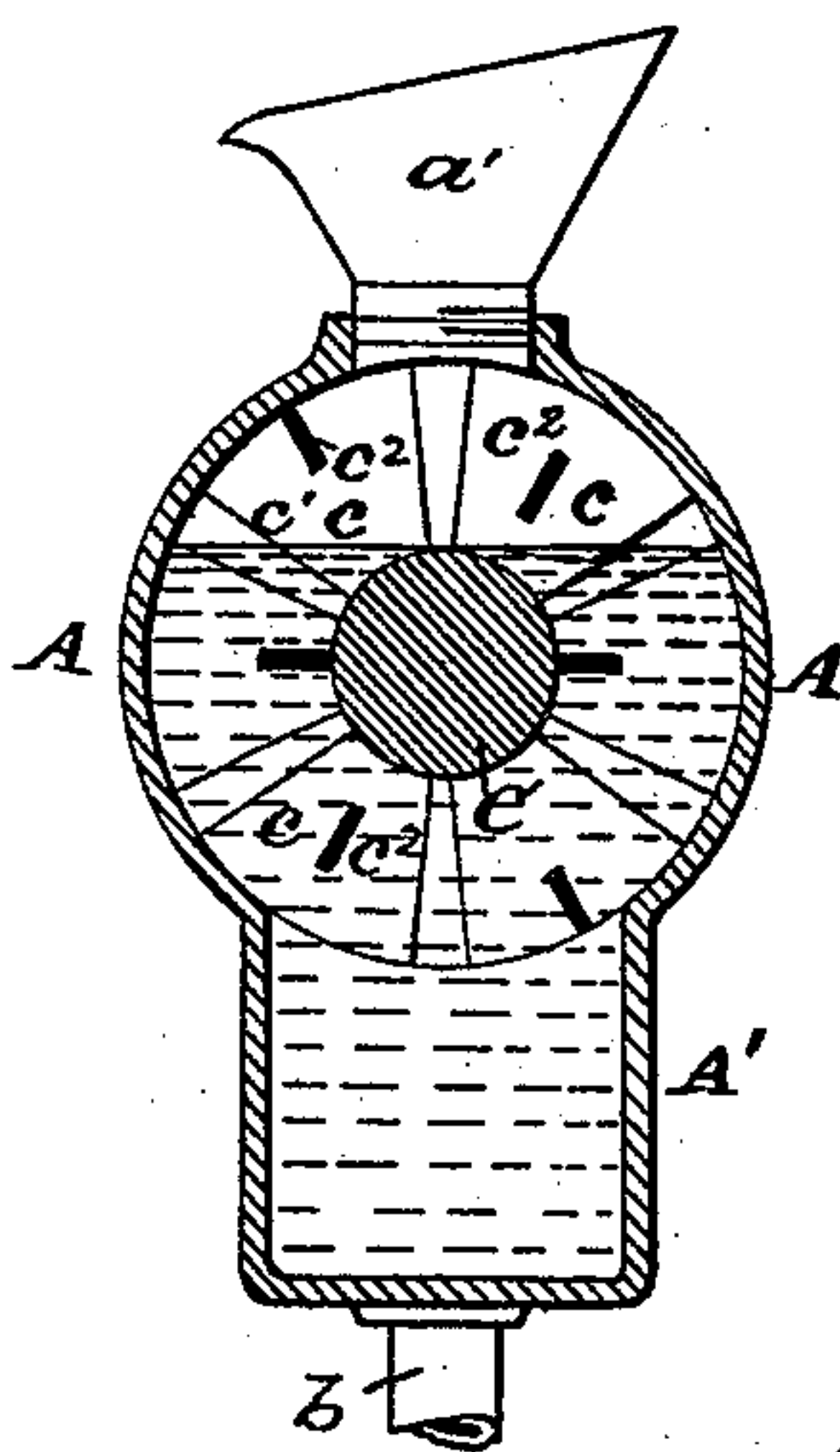


FIG. 2.



ATTEST:

Robt. Burns.

Emil Kaltmeyer.

INVENTOR:

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UNITED STATES PATENT OFFICE.

GUSTAV GRIESCHE, OF ST. LOUIS, MISSOURI.

AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 251,110, dated December 20, 1881.

Application filed September 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV GRIESCHE, a citizen of the United States, and a resident of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Amalgamators, of which the following is a specification.

My invention relates to certain improvements in that class of amalgamators in which a screw is made use of to convey the ore under treatment through a tank or casing containing quicksilver for the purpose of removing the precious metals contained in such ore; and the objects of my improvement are, first, to provide a means for effectually dividing the ore, so that each particle of the same will be brought into direct and intimate contact with the quicksilver or other analogous metal-extracting substance; second, to provide a means whereby a perfect and complete immersion of said particles in the quicksilver is attained; and, third, to afford facilities for keeping on a level the quicksilver within the amalgamator-tank. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section. Fig. 2 is a transverse section.

Similar letters of reference indicate like parts in both views.

Referring to the drawings, A represents a horizontal chamber or casing, having bearings at each end for the shaft of the screw or conveyer C, that has a rotary motion within said casing. The casing A has at its front end a feed opening or chute, *a*, and at its rear end a discharge opening or chute, *a'*.

A' is a pocket, formed at the rear end of the casing, for the reception of the amalgam as it forms in the process.

B is a circulating-pipe connecting the forward and rear ends of the casing, as shown, so as to permit of the quicksilver circulating from one end of the machine to the other, and thereby keeping on a level within the same. The connection of the circulating-pipe B to the pocket A' is at or near the top of the same, as shown, in order to allow the circulation of the quicksilver to take place without disturbing the amalgam as it settles in said pocket or chamber.

b' is a branch pipe, provided with a valve,

b', for drawing off the amalgam from the pocket A' as desired.

The conveyer C has its conveyer-blades *c* made in sections, as clearly indicated in Fig. 1, with the forward or cutting ends, *c'*, made acute, so as to more perfectly and minutely divide the passing ore.

c' are a series of longitudinal partitions or blades, arranged between the conveyer-blades *c*, the purpose of which is to effectually accomplish the immersion of the ore and bring all of its particles into a thorough and perfect contact with the quicksilver during the passage of the same through the casing.

In use the screw-conveyer C in its rotation will carry the ore or other body from the feed-opening *a* to the discharge-opening *a'*, and during its transit not only minutely divide it up and expose it to repeated immersions in the quicksilver, but at the same time skim off and present a fresh surface on the body of the quicksilver to said passing ore, whereby a more perfect extraction of the metal is attained and a greater yield of the same achieved than has heretofore been accomplished.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an amalgamator, the combination, with the casing A, containing quicksilver, of the screw conveyer C, the thread of which is divided up into sectional blades *c*, having sharp cutting-edges for cutting and minutely dividing the passing ore, all as herein described, and for the purpose set forth.

2. In an amalgamator, the blades *c* of the conveyer C, provided with sharpened or acute cutting ends *c'*, substantially as described, and for the purpose set forth.

3. In an amalgamator, the combination of the screw-conveyer C, casing A, containing the quicksilver and provided with a pocket A', and the circulating-pipe B, having connection with the pocket A' at or near its top, all as herein described, and for the purpose set forth.

In witness whereof witness my hand, at St. Louis, Missouri, this 21st day of September, 1881.

GUSTAV GRIESCHE.

In presence of—

ROBT. BURNS,

EMIL KALTMAYER.