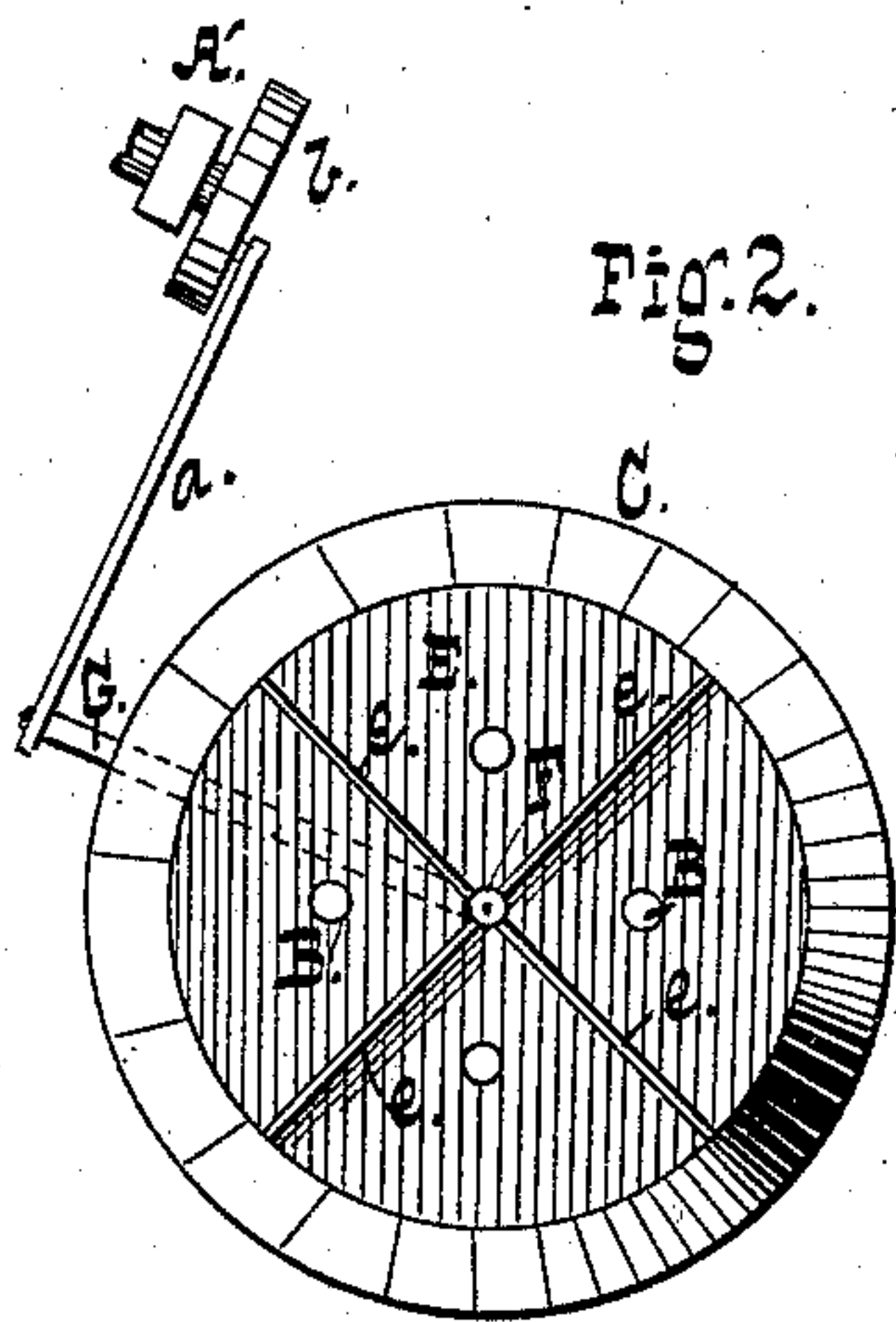
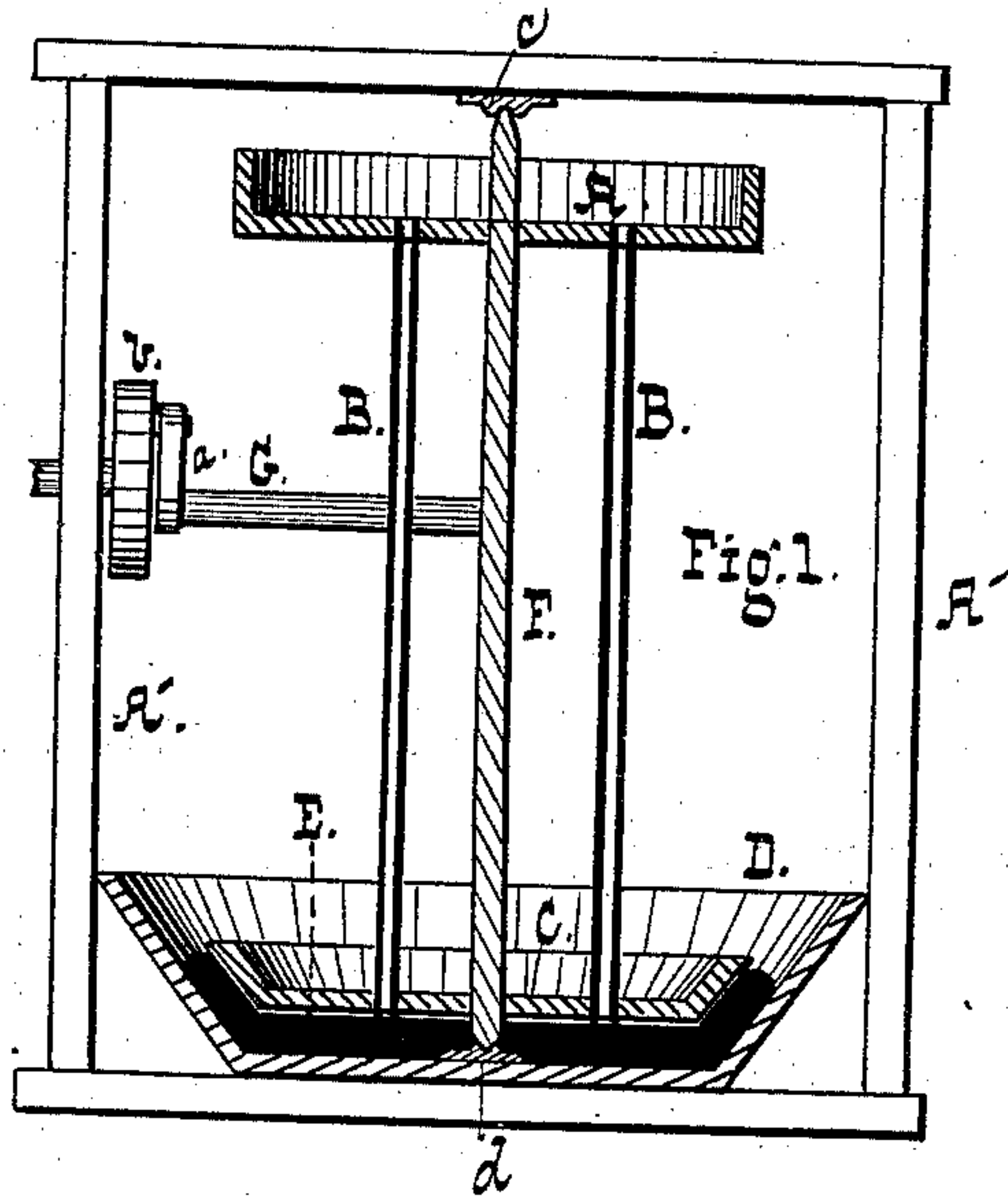


(No Model.)

J. WILKINS.
Amalgamator.

No. 238,823.

Patented March 15, 1881.



Witnesses.
G. H. Pistol.
W. A. Bertram.

Inventor,
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by

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UNITED STATES PATENT OFFICE.

JOSEPH WILKINS, OF BALTIMORE, MARYLAND.

AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 238,823, dated March 15, 1881.

Application filed November 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WILKINS, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Amalgamators; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical sectional view of the device, and Fig. 2 is a bottom plan of the disk and its immediate attachments.

My present invention relates to devices for separating noble metals from their ores by amalgamation; and it consists in certain improvements upon those for which Letters Patent were granted me February 10, 1880, No. 224,368, and August 17, 1880, No. 231,205. The devices forming the subject of the said Letters Patent are designed to separate what is technically known as "float-gold" from the auriferous water flowing from the stamp-mill or amalgamator, the grosser impurities being first allowed to subside. With the said devices a previous subsidence of the sand and dirt was absolutely necessary, and the difficulty was encountered that this material contained a considerable amount of gold and amalgam, heavy enough to sink in the subsiding-vats, which was lost. It would not answer to pass the water directly from the stamp or amalgamator through the device, as the sand and refuse would mechanically retain the amalgam and flow with it between the amalgamated plate and mercury. By a simple addition to my patented device I am enabled to pass the auriferous water directly from the stamps through the machine and insure the recovery of the gold in transit there-through.

Proceeding to a description of the machine, and referring to the accompanying drawings, A is the upper pan, and C the lower one or disk, having an amalgamated lower face, E; and B are the connecting-pipes. D is the outer pan containing the bath of mercury. A central shaft, F, stepped in bearings *c d* in the frame A', and on the bottom of the pan D, passes through the disk C and sustains it in a horizontal position. An arm, G, secured to the shaft F, is attached to a rod, *a*, which is

connected at the other end to a crank-pin on the disk or pulley *b*, which latter is driven by any suitable means. The auriferous water may be led in transit to the pan A over a wheel, from whose shaft the power may be taken; or any other suitable contrivance may be used. The lower face of the disk C is furnished with radial flanges *e e* between the vents of the pipes.

In operation, the auriferous water, carrying a considerable proportion of sand, noble metal, and amalgam, is led into the pan A and descends through the pipes B, finding egress under the face of the disk C. Here it spreads out into a sheet, flowing toward the periphery of the disk, between the bath of mercury and the amalgamated face of the disk. Pending this, the disk and pan are given a reciprocating motion through the medium of the pulley *b*, rod *a*, and arm G, causing the material under the disk to be agitated back and forth by the ribs *e*, insuring contact of the metal with the mercury, and mechanically freeing the amalgam and gold from the sand, and giving them a chance to sink in the mercury. The water and refuse pass off from the pan D to a second device similar to the one described, and finally, after allowing the sand to subside, the water is led through one of my devices for saving the float-gold, as described in my patents above referred to.

By the use of the device above described a great portion of noble metal which has heretofore been lost is secured. Its simplicity of construction and the fact that it requires but little attention enables it to be used with profit to treat a grade of auriferous material too poor in metal to admit of its being worked through an ordinary amalgamator, but still rich enough to make the recovery of the metal a great desideratum.

What I claim is—

In combination with the frame A', pan A and D, steps *c d*, and shaft F, the disk C, arms G *a*, and pulley *b*, as set forth.

JOS. WILKINS.

Witnesses:

R. D. WILLIAMS,
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