(No Model.)

W. M. HOFFMAN.

MACHINE FOR CLEANING CORUNDUM.

No. 600,003. Patented Mar. 1, 1898.

Fig. 1.

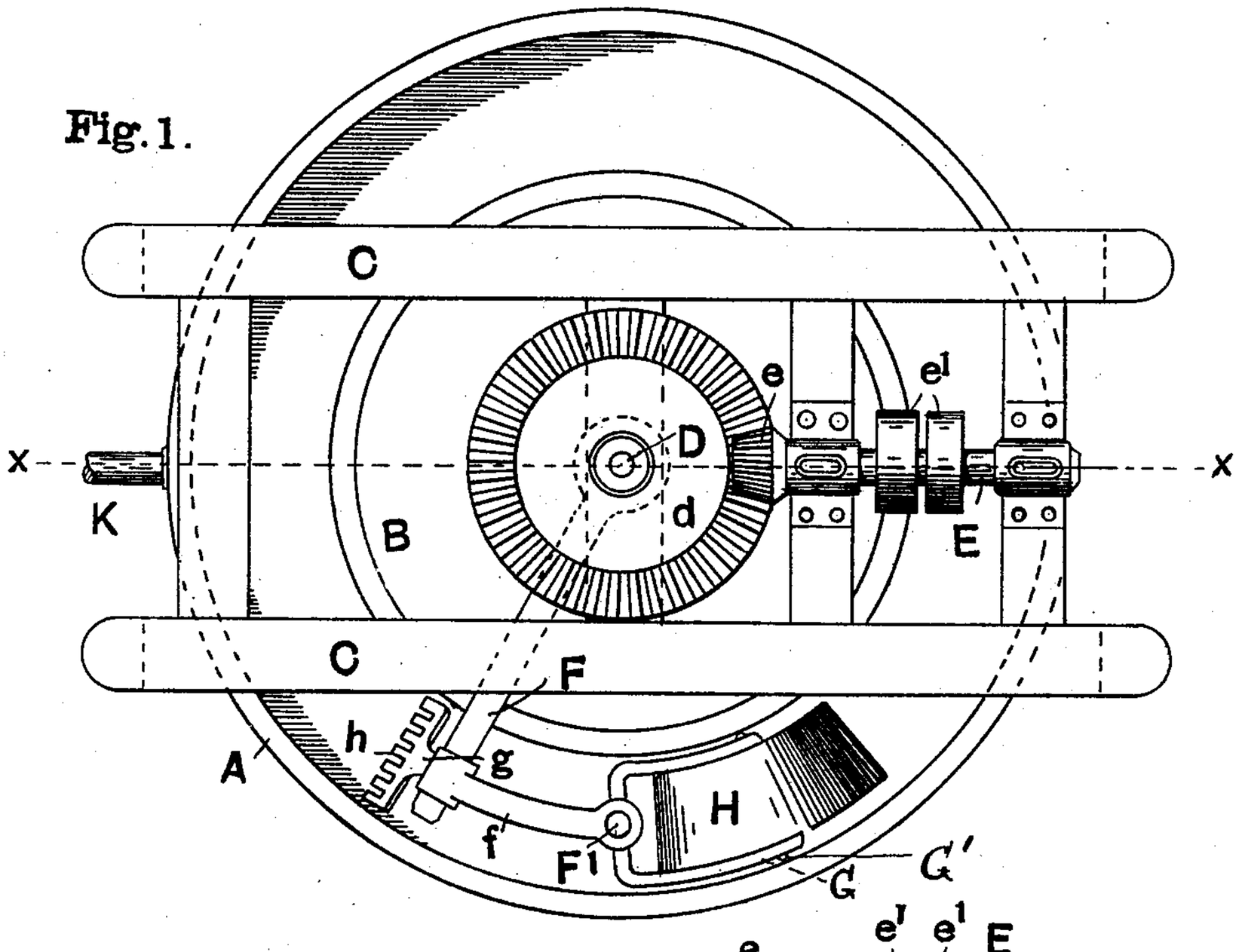
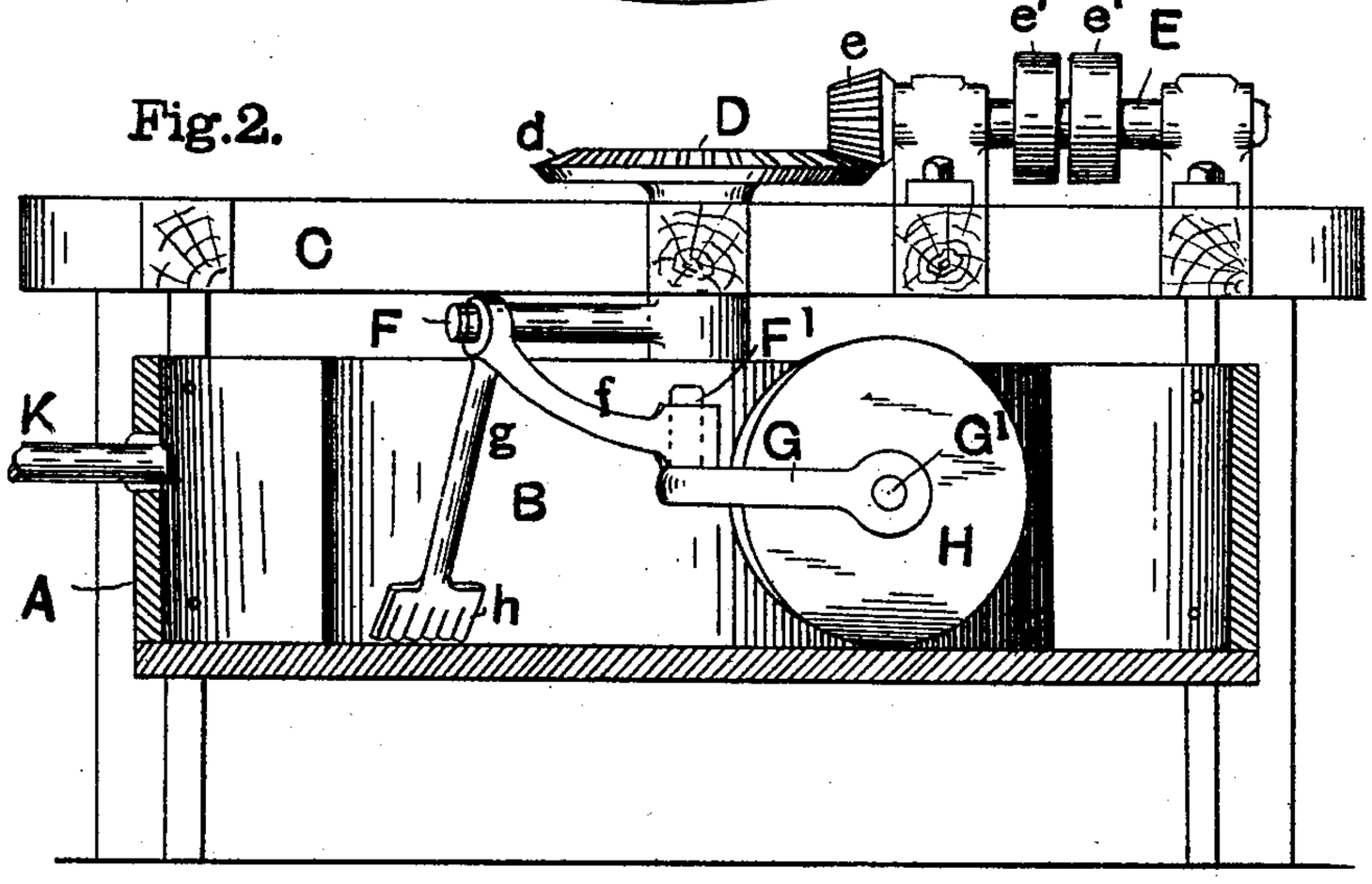


Fig. 2.



WITNESSES
Chas Wiener
V. M. Clough.

INVENTOR
William M. Hoffman
By Parker & Burton
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM M. HOFFMAN, OF DETROIT, MICHIGAN, ASSIGNOR TO SILAS A. JONES, OF DILLSBOROUGH, NORTH CAROLINA.

MACHINE FOR CLEANING CORUNDUM.

SPECIFICATION forming part of Letters Patent No. 600,003, dated March 1, 1898.

Application filed January 12, 1898. Serial No. 666,423. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. HOFFMAN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Machines for Cleaning Corundum; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to machines for cleaning corundum and other heavy minerals from the foreign matter found in connection with them in the mines.

It has for its object an improvement in that class of machines in which the corundum and its matrix are subjugated to pounding or grinding treatment in the presence of moving water, which lifts up and carries away the lighter and finer material, leaving the corundum in the form of sand and fine crystals in the bottom of the treating-vat.

In the drawings, Figure 1 is a plan view. Fig. 2 is a section at the line *x x* of Fig. 1.

A and B indicate the outer and inner walls of an annular tub or vat supported by a framework C. Concentric with the walls of the tub is a vertical shaft D, surrounded by a miter-wheel *d*. With the miter-wheel *d* meshes a second miter-wheel *e* on a horizontal shaft E, provided with proper pulley-wheels *e'*, through which it receives motion from any convenient source of power. A horizontal arm F extends from the vertical shaft D and supports the hanging arms *f g*. To the lower extremity of *f*, by a vertical swivel F', is connected a draft-clevis G, the pin of which, G', forms the axle of a conical crushing-roll H. The arm *g* terminates at its lower end with a stirring-fork *h*. The hanging arms *f g* turn slightly on the arm F as a shaft, the object being to permit the crushing-roll H to rise slightly and pass over any obstruction of too hard a nature to be crushed by the weight of the roll employed.

In operation the fork *h* precedes the crushing-roll H and pushes in front of it all the material except a thin layer that passes through and under the tines of the fork. Water is admitted to the annular tank through an inlet-pipe K and escapes from the tank in a thin stream over the top walls thereof, carrying with it those particles that have been crushed fine enough to be lifted up and carried away.

There may be several crushing-rolls in the same tank, if desired.

What I claim is—

In a machine for cleaning corundum, the combination of an annular tank, a vertical shaft concentric thereto, a horizontal arm extending from said shaft, a vibratory hanger having two arms, one of which terminates in a fork, and the other of which is connected by swivel-bearings to a conical crushing-roller, substantially as and for the purpose described.

In testimony whereof I sign this specification in the presence of two witnesses.

WILLIAM M. HOFFMAN.

Witnesses:
CHARLES F. BURTON,
VIRGINIA M. CLOUGH.