

O. G. WARREN.
Quartz Comminuter.

No. 54,045.

Patented April 17, 1866.

FIG. 1.

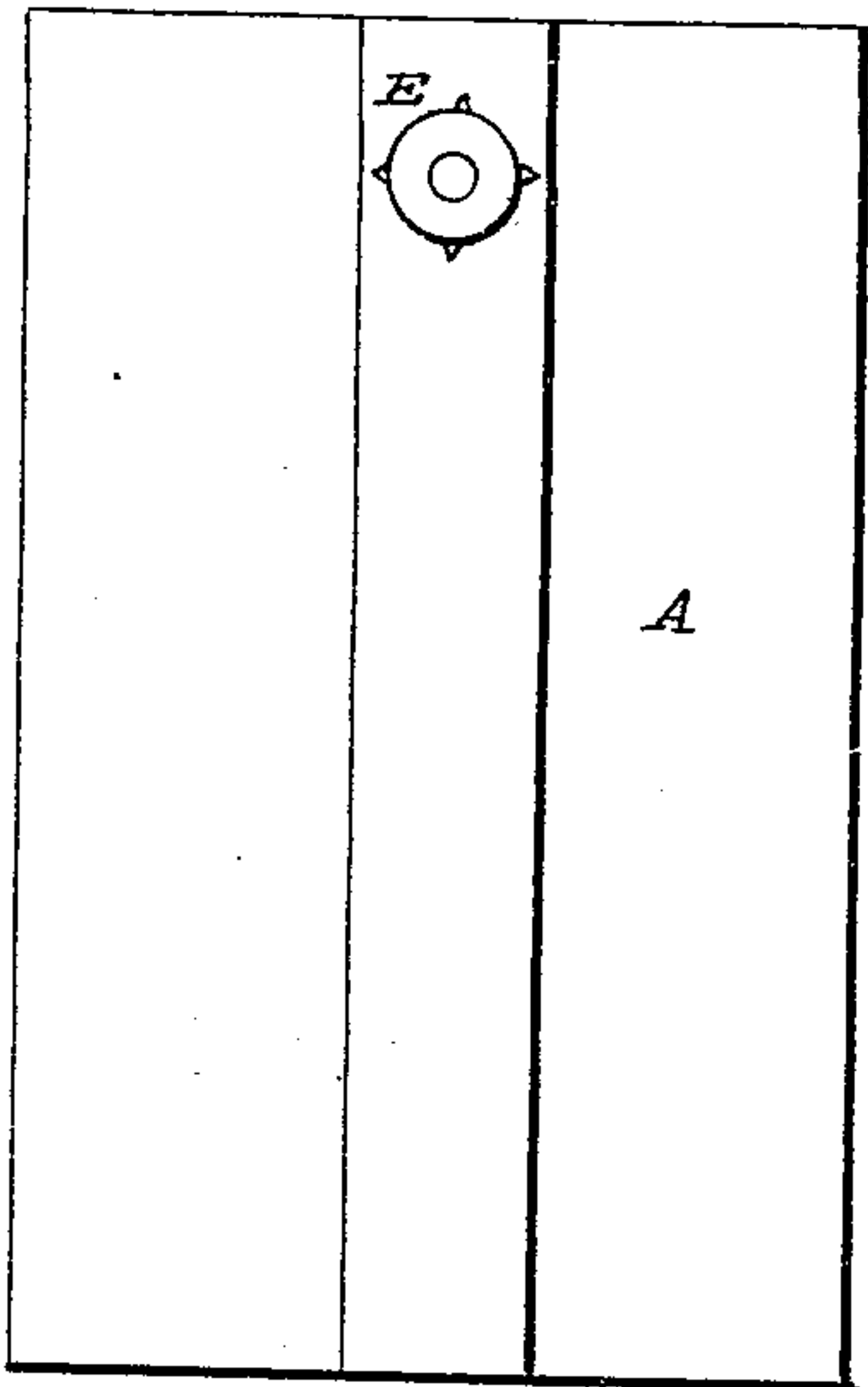


FIG. 2.

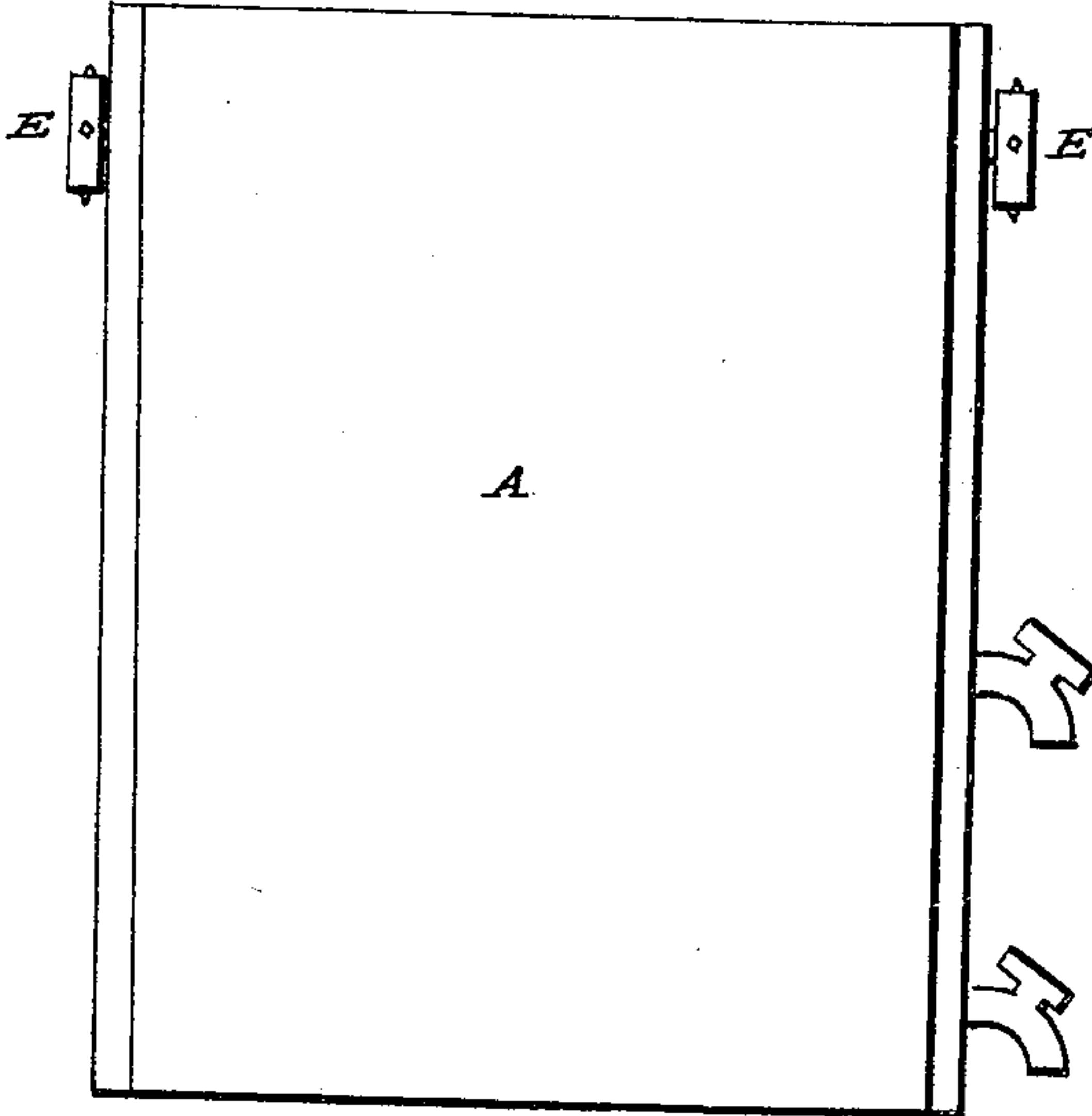


FIG. 3.

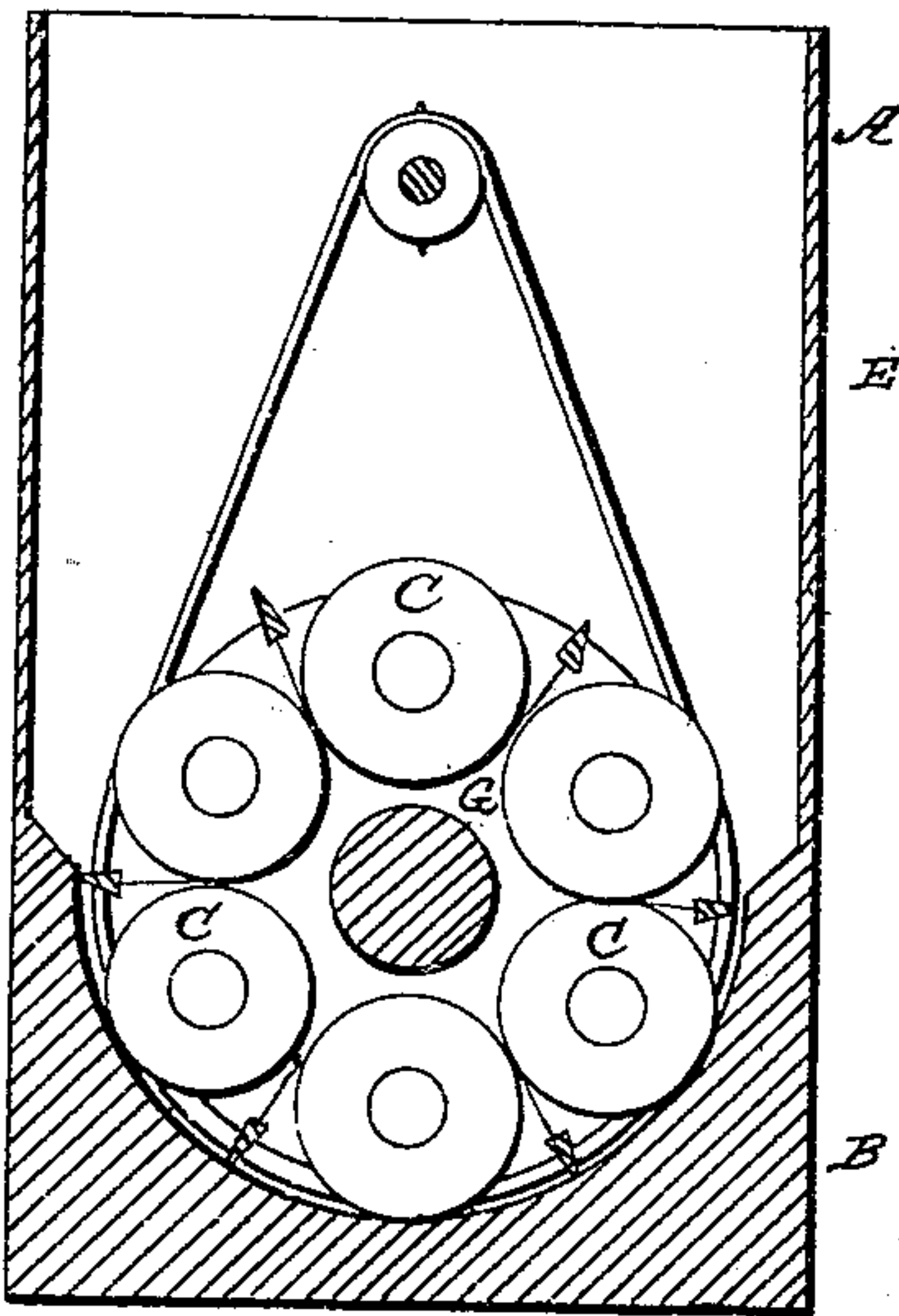


FIG. 4.

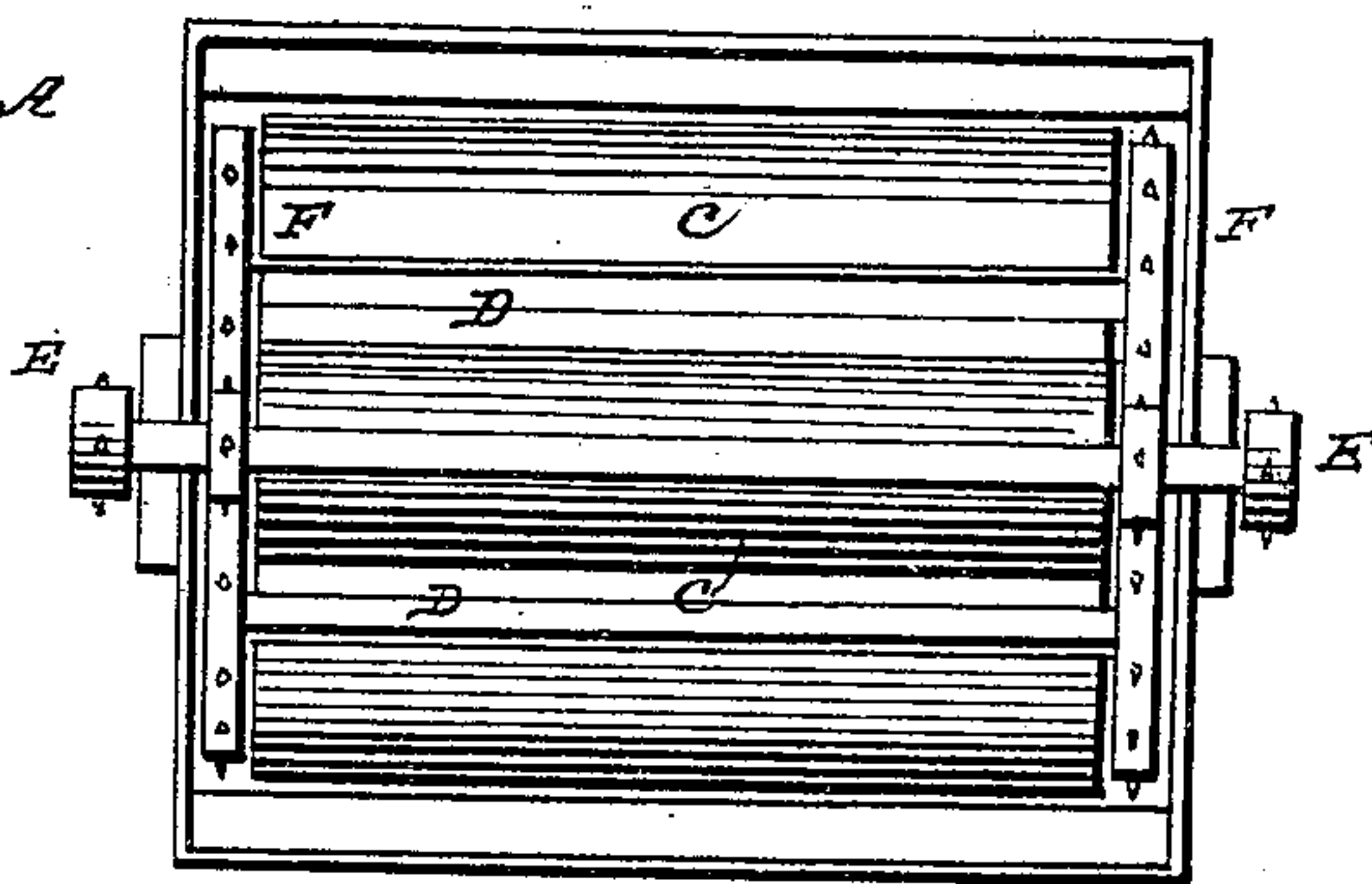
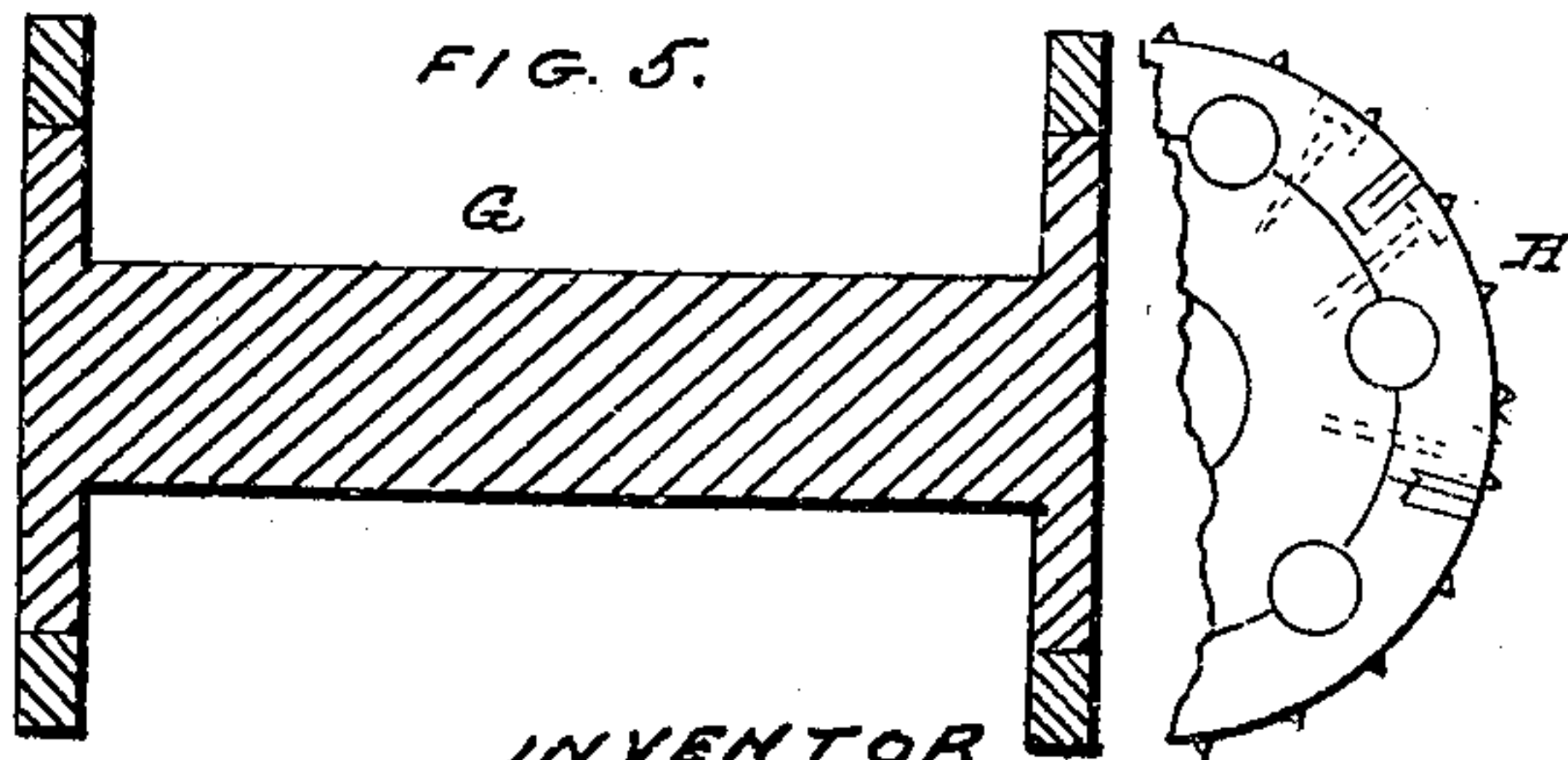


FIG. 5.



WITNESSES:

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INVENTOR.

Owen G. Warren

UNITED STATES PATENT OFFICE.

OWEN G. WARREN, OF NEW YORK, N. Y.

IMPROVED QUARTZ-COMMINUTOR.

Specification forming part of Letters Patent No. 54,045, dated April 17, 1866.

To all whom it may concern:

Be it known that I, OWEN G. WARREN, of the city, county, and State of New York, have invented a new and useful Improvement in the Apparatus for Triturating Ores in Water; and I hereby declare that the following is a full and exact description thereof.

This invention is called "Warren's dissolving apparatus," or "Warren's quartz-comminutor."

To enable others to make and use my invention, I proceed to explain it in detail, reference being had to the drawings hereunto annexed and making part of this specification.

Figure 1 is an end elevation of the tank; Fig. 2, a side elevation; Fig. 3, a vertical section; Fig. 4, a bird's-eye view; Fig. 5, a diagram section of the solid stock which holds the cylinders.

The same letters refer to the same things in all the designs.

A is the tank; B, the base or casting, intended to be heavy and strong; C, the cylinders or rollers for crushing or comminuting the ore; D, scrapers to prevent the ore packing at the bottom; E, driving-pulley; F, the great pulley, on which is put a chain-band to turn the gang of rollers. It is on the solid rim upon each end of the horse-roller G, Fig. 5, that carries the six crushing-cylinders C. G, section of the horse-roller; H, journal-boxes for the crushing-cylinders C. These are circular on the periphery, and constitute the rim on which the band runs. Dovetailed into these are the scrapers.

Upon a horse-frame or horse-roller, G, Fig. 5, I mount the crushing-cylinders C, which

should weigh at least ten tons each. They are simple cylinders of cast-iron made solid, with a journal at each end. Any number may be used, but six is the best number. Between the rollers C, I set scrapers D, which are simple flat bars of iron lying parallel with the cylinders, and just touch the surface on which the rollers C run. On the ends of the horse-frame G are the pulleys F for a chain-band. This horse-frame G, carrying its six rollers, is set in a tank adapted to be heated by steam-pipes or otherwise. The bottom of the tank is semicircular, and it should be high to hold much water, or it may be one-third of a circle. At the top of the tank should be a shaft and pulleys, E, to turn the horse-frame, so that its cylinders may roll with their weight upon the bottom (as anti-friction bushes roll within their box) to comminute the ores.

For convenience there should be an elevator to deposit in the tank the granulated ore, and there should be sluices to supply water and faucets to draw it off at different stages while washing the ore. Steam-pipes would heat the water best.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The horse-frame, carrying crushing-rollers C, within a tank, in the manner substantially as above described, and for the purposes set forth.

OWEN G. WARREN.

Witnesses:

J. D. STURTEVANT,
JULIE NICHOLLS.