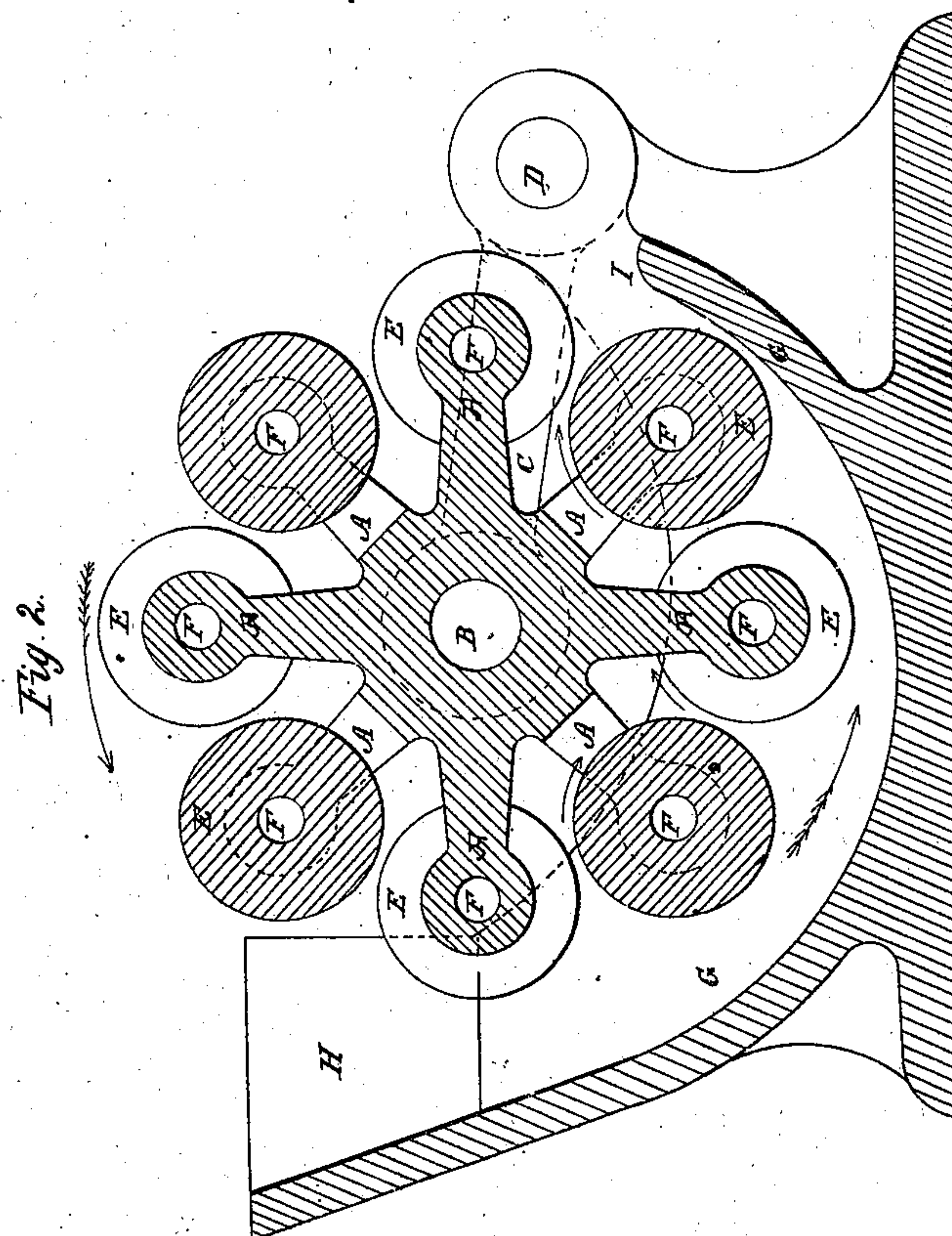
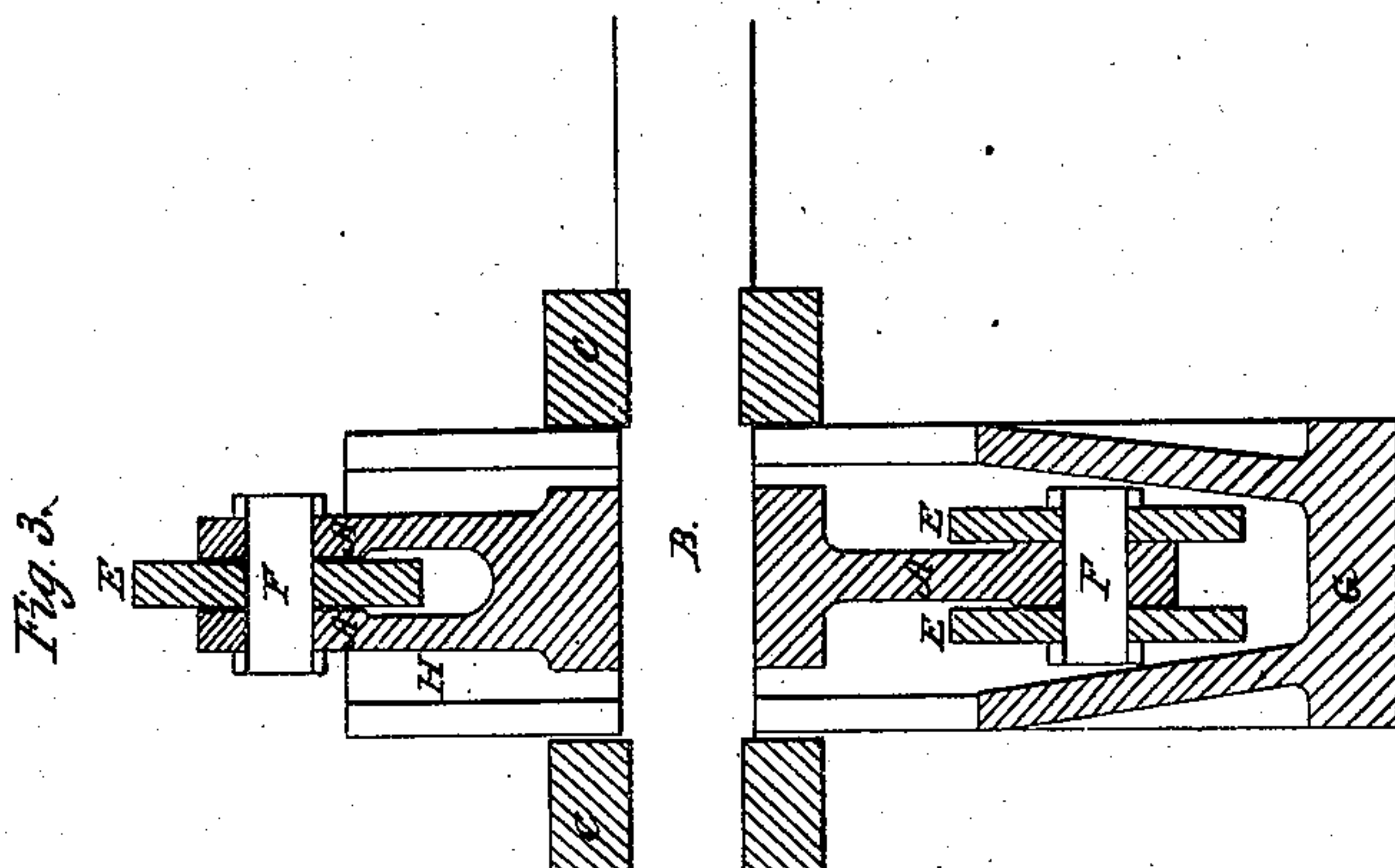
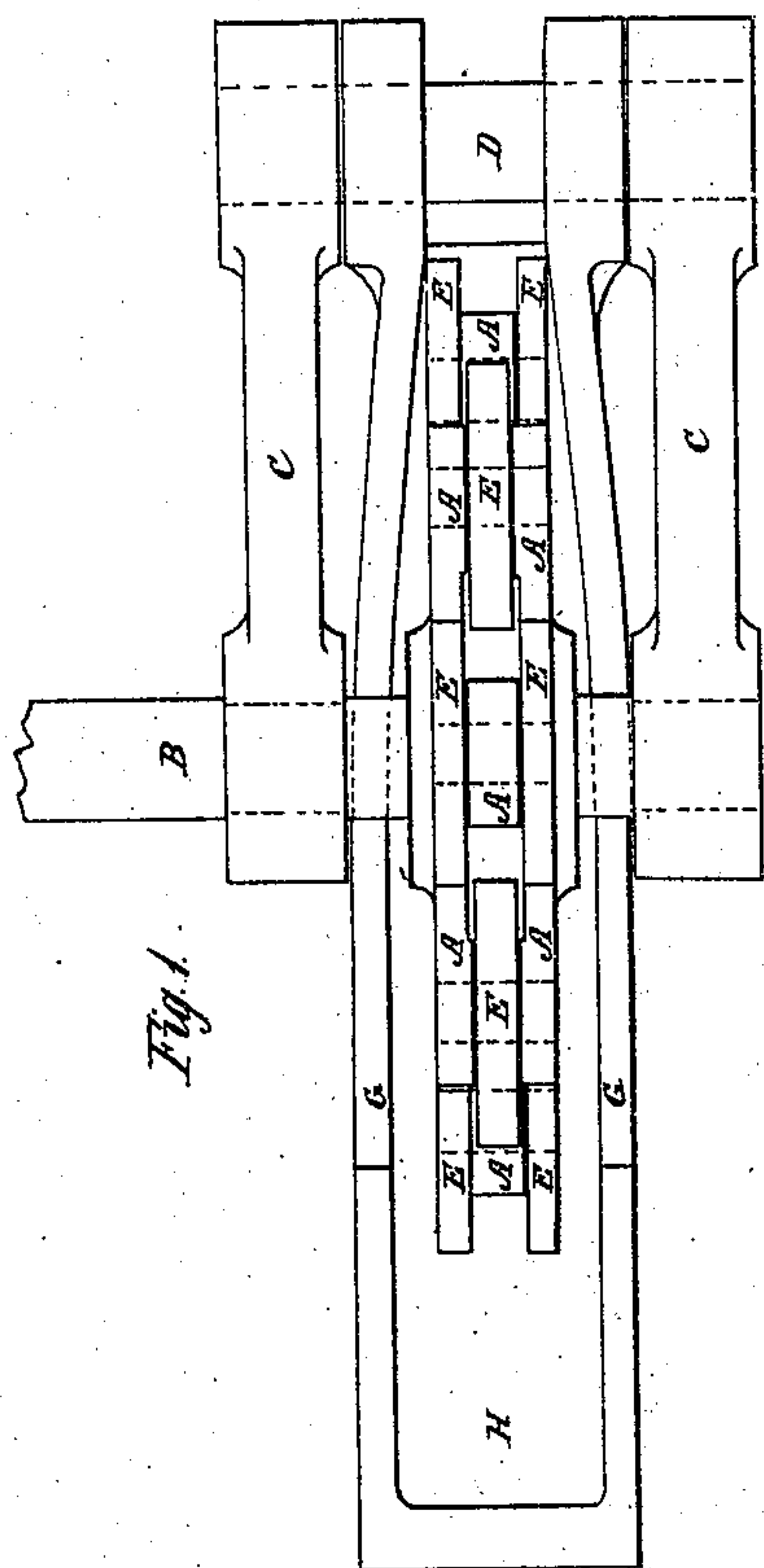


No. 12,031.

PATENTED DEC. 5, 1854.

W. H. PLUMB.
MACHINE FOR CRUSHING ORE.



UNITED STATES PATENT OFFICE.

WM. HENRY PLUMB, OF NEW YORK, N. Y.

MACHINE FOR CRUSHING ORES.

Specification of Letters Patent No. 12,031, dated December 5, 1854.

To all whom it may concern:

Be it known that I, WM. HENRY PLUMB, of the city, county, and State of New York, have invented a new and useful Machine for
5 Crushing Ores or other Hard Substances; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the drawings herewith,
10 making a part of this specification, in which—

Figure 1 is a plan. Fig. 2 a vertical section. Fig. 3 a cross section.

The A's represent a series of arms uniting
15 in one common center which is fixed on the shaft B so as to rotate as indicated by the larger arrows. The shaft B is supported in the two arms C, C, which arms are suspended from the stationary pin D.

20 The E's are rollers placed on the centers marked F so as to revolve backward as indicated by the small arrows when brought in contact with the material to be crushed, these rollers are placed alternately single
25 and double.

G is a trough of bed into which the material to be crushed is placed.

H is the hopper for receiving the material.

To enable others skilled in the art, to
30 make and use my invention I will proceed to describe its construction and operation, viz: The series of arms marked A with the rollers marked E being suspended in the arms C, C, which arms C, C, being hung
35 from the center D, the face of the rollers marked E will be pressed against the interior surface of the bed G at a point determined by the relative position of the center D to the interior surface of the bed G
40 which point of pressure can be adjusted in practice at pleasure. It is obvious that instead of the arms D a sliding motion can be given to the shaft of the rollers in a vertical

or inclined direction which will be a partial equivalent therefor but I prefer the arms D 45 although I should consider the slide motion an equivalent of my device. The series of arms marked A with the rollers marked E are rotated by means of a pulley or gearing in the direction indicated by the large arrows, 50 thus bringing the face of the rollers marked E gradually toward the interior surface of the bed G. The space between the exterior line described by the rollers working from the shaft B and the interior line of the bed 55 G, is continually contracting. When the material to be crushed is thrown into the hopper H it is gradually reduced, the disposition of the weight of the rollers, arms, etc., being such that it exerts most pressure 60 where it is most desired. The rollers marked E in their movement forward on the shaft B have also a movement backward, as indicated by the small arrows, on the centers marked F thus avoiding much 65 friction. The material when fine enough is washed out over the extremity I, or through grated apertures in the side of the bed G. I do not hereby limit myself to the number of rollers nor to their relative posi- 70 tion which may be varied to suit the character of the material and other circumstances, well known in practice.

What I claim as my invention and desire to secure by Letters Patent, is— 75

The rollers upon the radial arms of the shaft connected with the movable arms or their equivalent and revolving in a basin whose inner surface is eccentric to the rollers shaft arranged and operating substantially 80 in the manner and for the purpose set forth.

WM. HENRY PLUMB.

Witnesses:

I. W. STRATTON,
W. B. SPILMAN.