

H. F. KENNEDY.
Revolving Ore-Separator.

No. 218,537.

Patented Aug. 12, 1879.

Fig. 1.

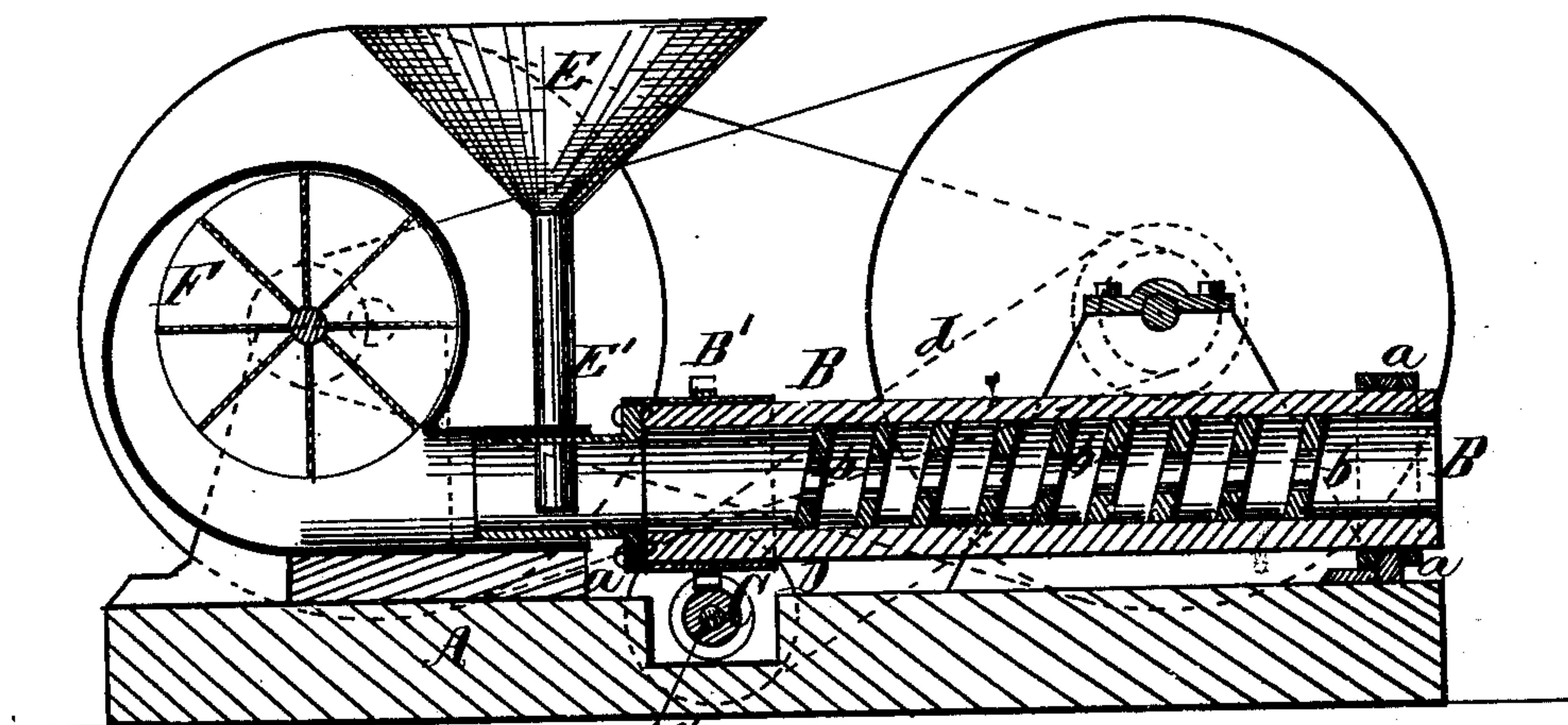


Fig. 2.

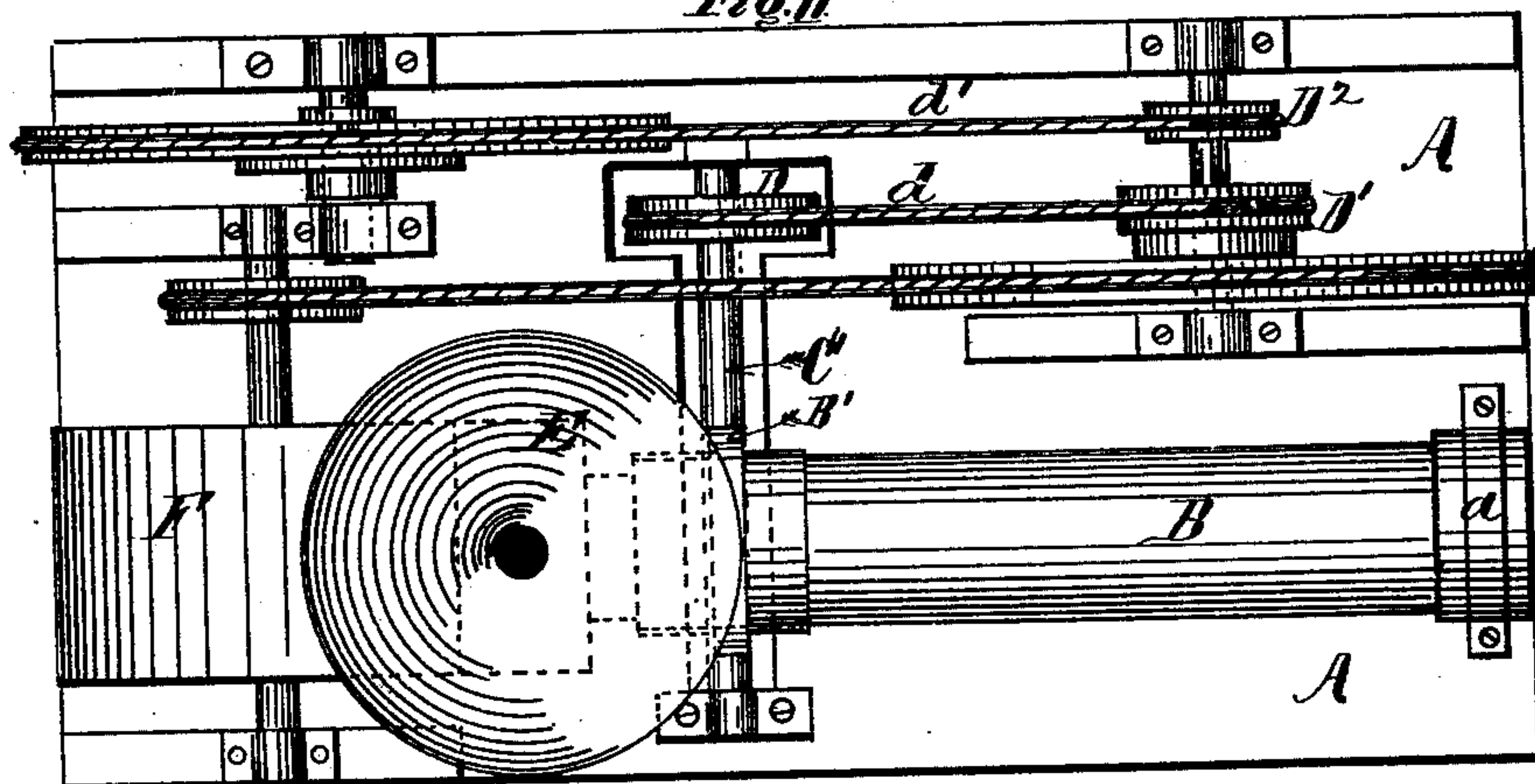
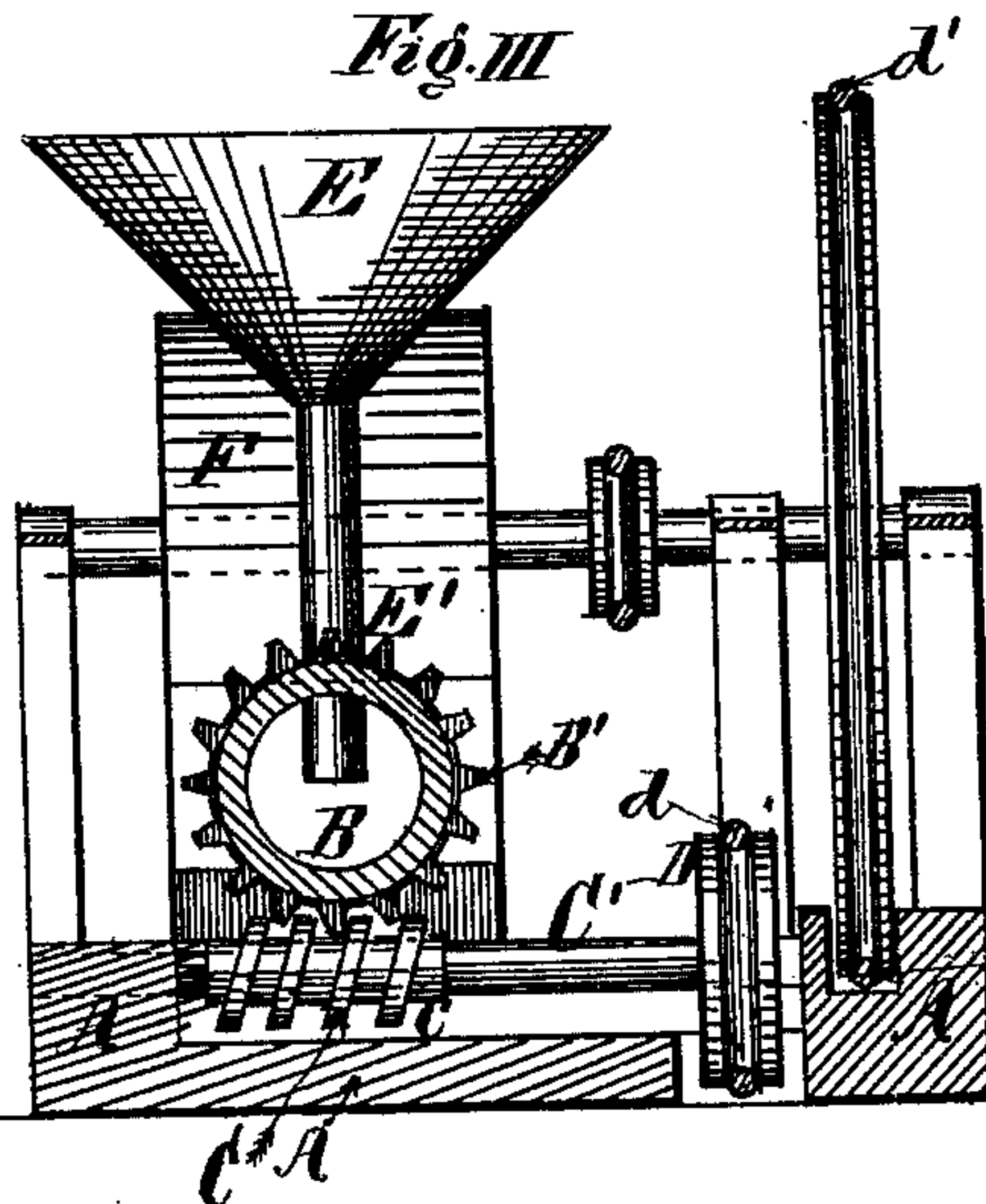


Fig. 3.



Witnesses:

J. Barritt.

Richard Gerner.

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Henry Gerner
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HERBERT F. KENNEDY, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN REVOLVING ORE-SEPARATORS.

Specification forming part of Letters Patent No. **218,537**, dated August 12, 1879; application filed March 15, 1878.

To all whom it may concern:

Be it known that I, HERBERT F. KENNEDY, of the city of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improvement in Revolving Ore-Separators for Extracting Precious Metals from Dirt, of which the following is a specification.

The nature of this invention consists in making the flume cylindrical in form, with both of its ends open and the riffles placed spirally around the interior of the flume, which is made to rotate by suitable machinery.

The dirt to be treated is to be fed from a hopper through a pipe down near to the bottom of the flume, from which point it is driven along the flume by means of a current of air.

The invention will be readily understood by reference to the accompanying drawings, of which—

Figure 1 is a longitudinal sectional elevation of the improved flume. Fig. 2 is a general plan of the same, which also shows suitable mechanism for driving or rotating the flume. Fig. 3 is a transverse section of the flume, looking toward the mechanism by means of which it is rotated.

The bed-plate A supports two or more pillow-blocks, *a*, which furnish bearings for the revolving cylindrical flume B. This flume is to be rotated by any suitable means; but probably the simplest and best will be that shown in the accompanying drawings, which consists of a cogged wheel, B', surrounding the periphery of the flume, and into which is geared the threads of an endless screw, C, the said screw being fixed to the transverse shaft C', which may be driven by the belt *d* and *d'* and the pulleys D, D', and D². Arranged spirally around the inside of the flume are the riffles *b*.

The dirt and ore to be treated in this machine will be placed in the hopper E, from which it will be fed into the flume through the feed-pipe E', which will deliver the material

immediately on the bottom of the flume, or very near thereto.

A current of air driven by a fan or suitable blower, F, through the flume will drive out the dirt in the form of dust, the riffles serving, in the usual manner, to hold the mass in the flume until it is properly separated, the said riffles being placed spirally in the flume, and arranged so as to work the heavier particles back into the machine, in opposition to the current of air, on the flume being revolved in one direction, the air-current being sufficiently strong toward the end to permit the escape of the lighter particles. On revolving the flume in the contrary direction, the whole of the ore therein will be carried toward and discharged at the tail end.

When mercury is used to secure the final separation of the metals, I pour it into the flume, which is then revolved in the same manner as in the previous operation.

After the amalgamation is completed, the amalgam may be removed by rotating the flume in the contrary direction. The action of the riffles will then carry the metal toward and cause its discharge at the tail end of the flume.

I am aware that revolving flumes having spiral riffles therein, and adapted to separate ores through the medium of a stream of water running therethrough, have heretofore been used; and I am also aware that other arrangements for separating ores by means of blasts of air have already been employed. Such devices, however, I do not claim; but

What I do claim, and desire to secure by Letters Patent, is—

The blast apparatus F, in combination with the hopper E and the revolving flume B, provided with the spiral riffle *b*, substantially as and for the purpose herein set forth.

HERBERT F. KENNEDY.

Witnesses:

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