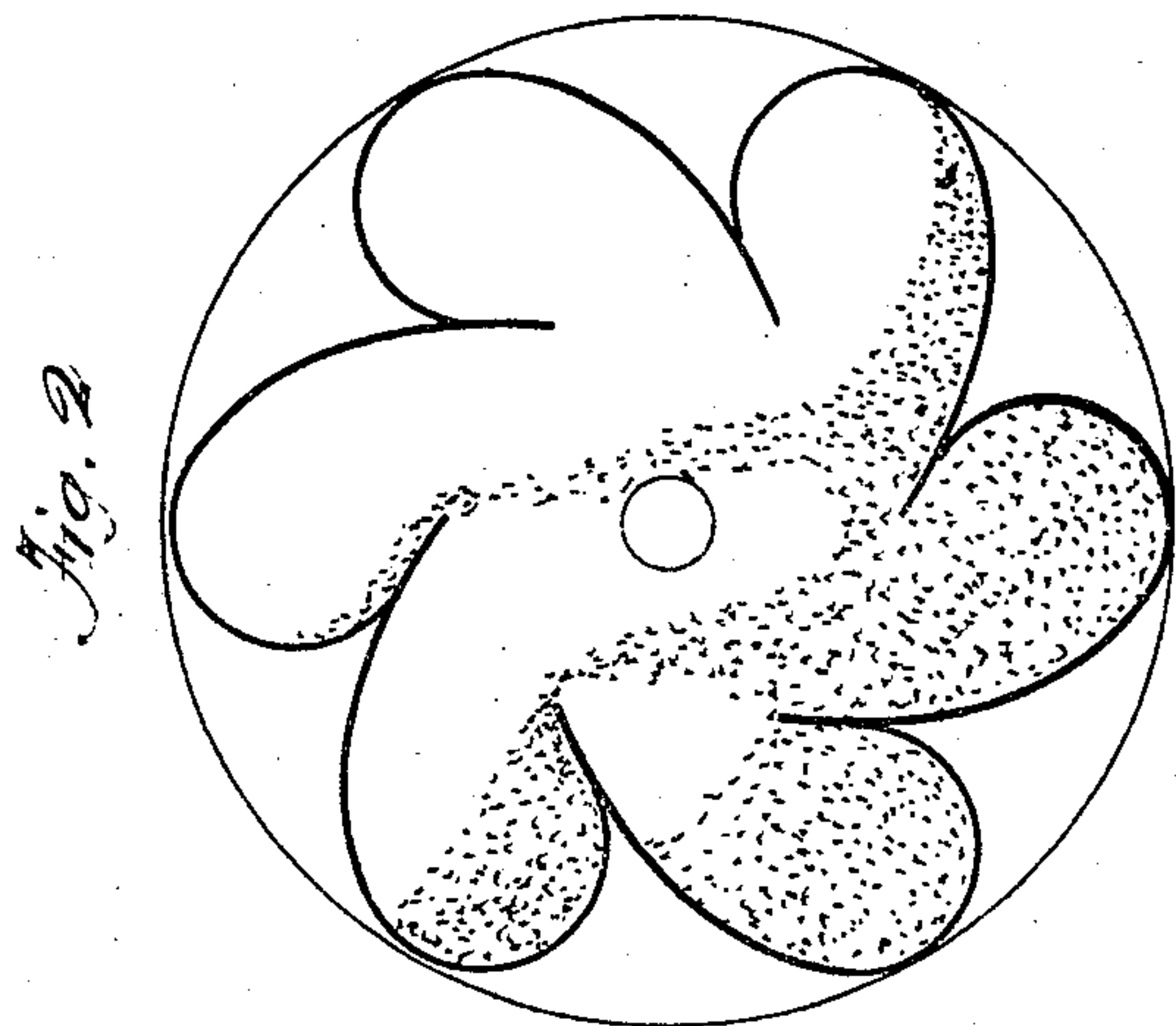
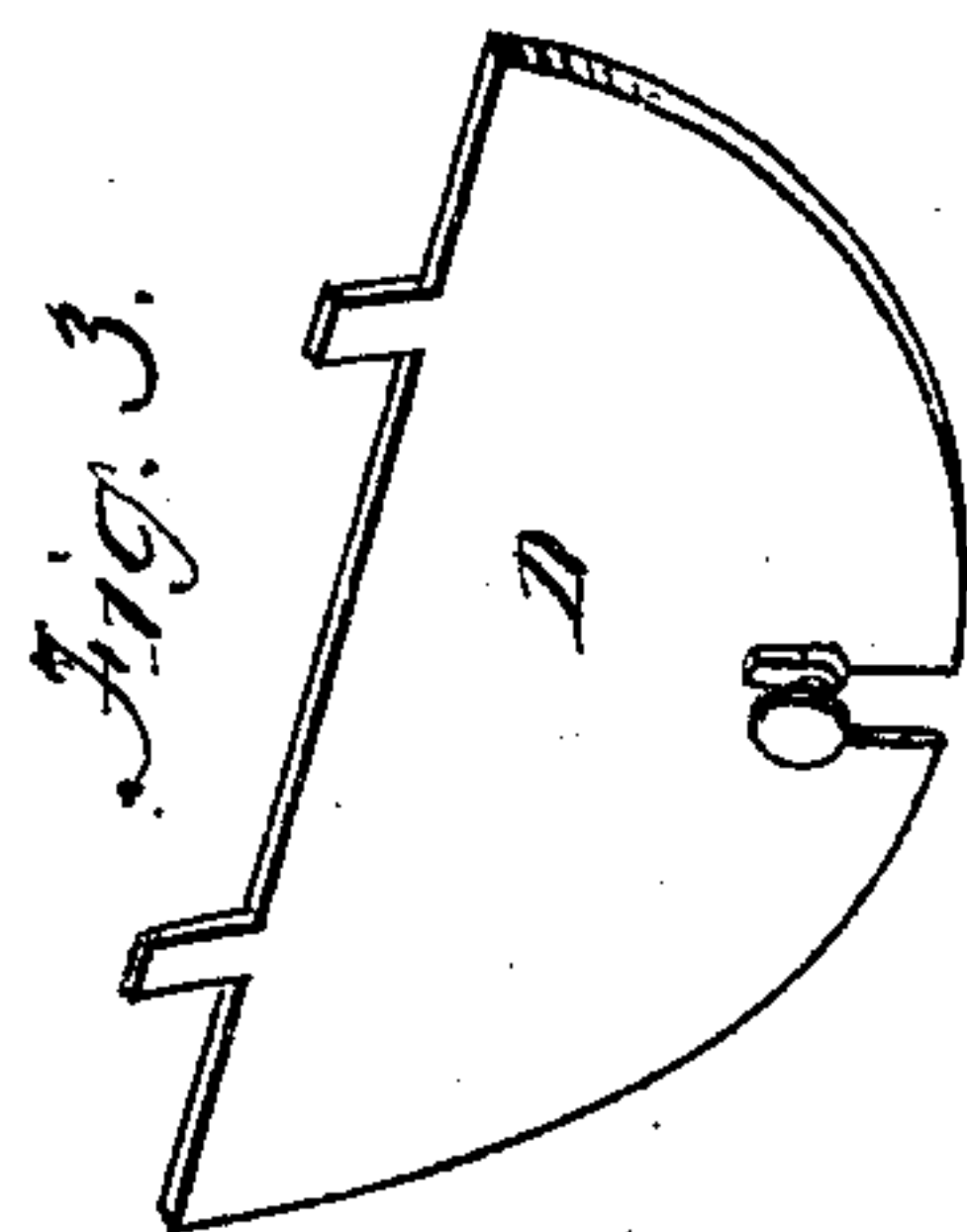
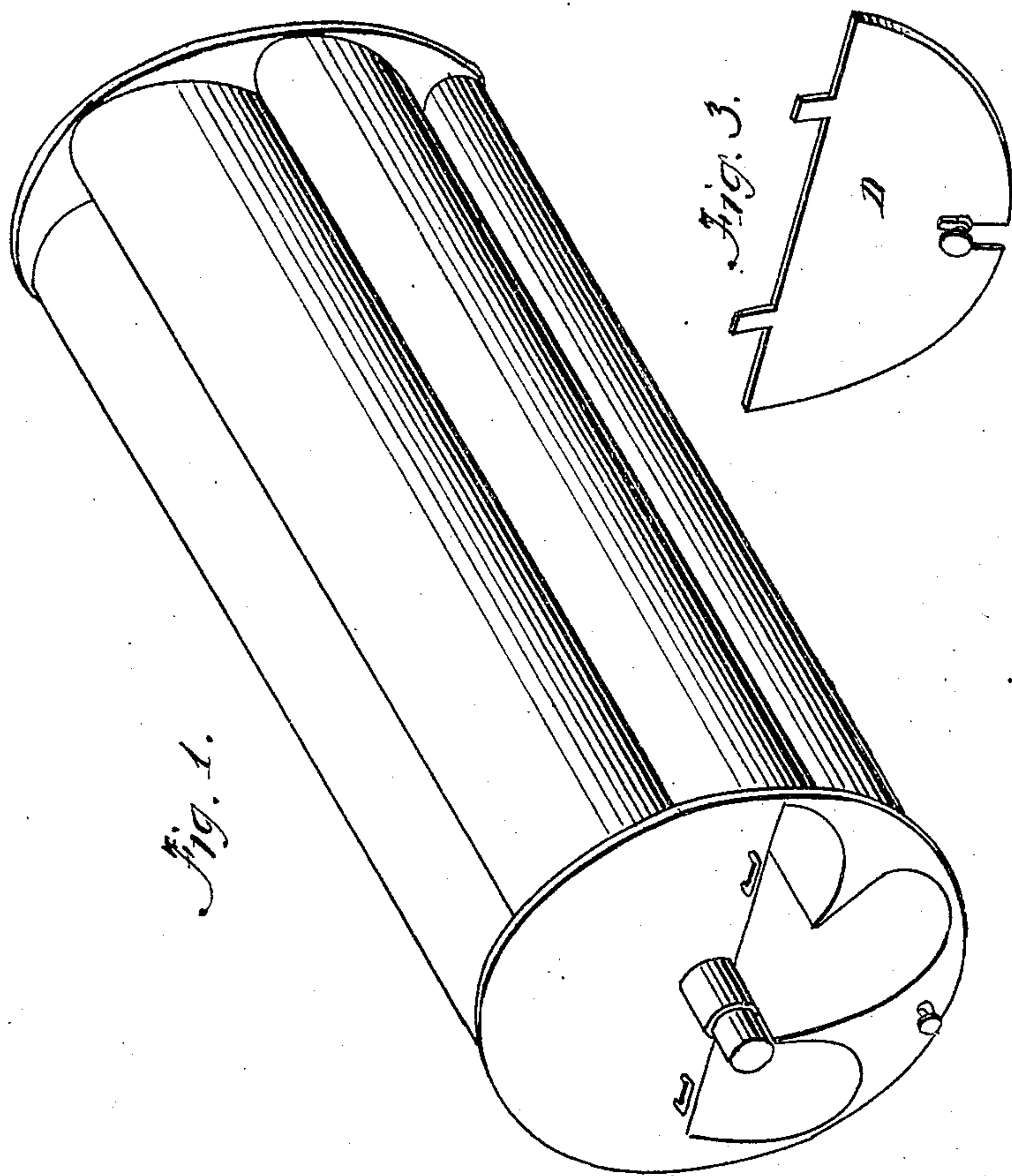


W. F. Goodwin.

Revolving Retort for Roasting Ore.

N^o 72843

Patented Dec. 31, 1867.



Witnesses;

N. B. Smith

A. D. Smith

Inventor;

W. F. Goodwin

United States Patent Office.

WILLIAM F. GOODWIN, OF EAST NEW YORK, N. Y.

Letters Patent No. 72,843, dated December 31, 1867.

IMPROVED REVOLVING RETORTS FOR ROASTING ORES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM F. GOODWIN, of East New York, in the county of Kings, and State of New York, have invented a new and useful Improvement in Revolving Retorts; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of a retort constructed on my improved plan.

Figure 2 is a cross-section through the same.

Figure 3 represents the door detached from the retort.

My improvement consists in a novel construction of a retort, for the double purpose of obtaining a greater heating-surface in the same diameter, than is contained in a round cylinder, and at the same time, by the rotation of the internal concaves or buckets, the substance to be roasted is elevated and thoroughly mixed.

The retort consists of a series of elongated convexo-concave buckets, bent or cast in the form of the figure 6 or 9, (the convex-being the exterior, and the concave the interior surface,) joined together in such manner that when the retort is placed horizontally in the furnace, and rotated in the proper direction, the buckets on the rising side of the retort will present the form of the figure 6, while those on the descending side present the form of the figure 9. The exterior circles of the buckets present a greater surface to the fire than would be presented by a cylinder of the same diameter, occupying the same space; and the heat is admitted between the buckets, to a point nearer the centre of the retort; and the interior surface of the corrugated retort is also greater than the interior surface of a plain cylinder of the same diameter, thereby affording greater space or surface to the substance to be roasted, and the buckets, acting as elevators, carry up the substance which is being roasted, towards the top of the retort, and pour or spill it out as they ascend, thus thoroughly mixing the substance, and causing its particles to be uniformly heated. The retort may be made of cast or wrought iron, in one piece, or bent in sections, and riveted together. The heads or ends of the retort may be of cast or wrought iron, having journals cast or riveted on the centres thereof, their axes being through the centre of the retort, and on which journals the retort is supported and revolved. The front head is provided with an opening, through which the retort is charged and discharged. This opening is closed by the door D, in the usual way of applying doors to retorts. One of the journals has a hole through it, through which the gas may escape from the retort. The retort is designed more particularly for the purpose of roasting ores containing precious metals, but it may be used for other purposes, and wherever revolving retorts or furnaces are required.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A corrugated retort, constructed in form and manner and for the purpose substantially as described.

In testimony whereof, I have hereunto subscribed my name, this 22d day of November, 1867.

WM. F. GOODWIN.

Witnesses:

N. B. SMITH,

A. M. SMITH.