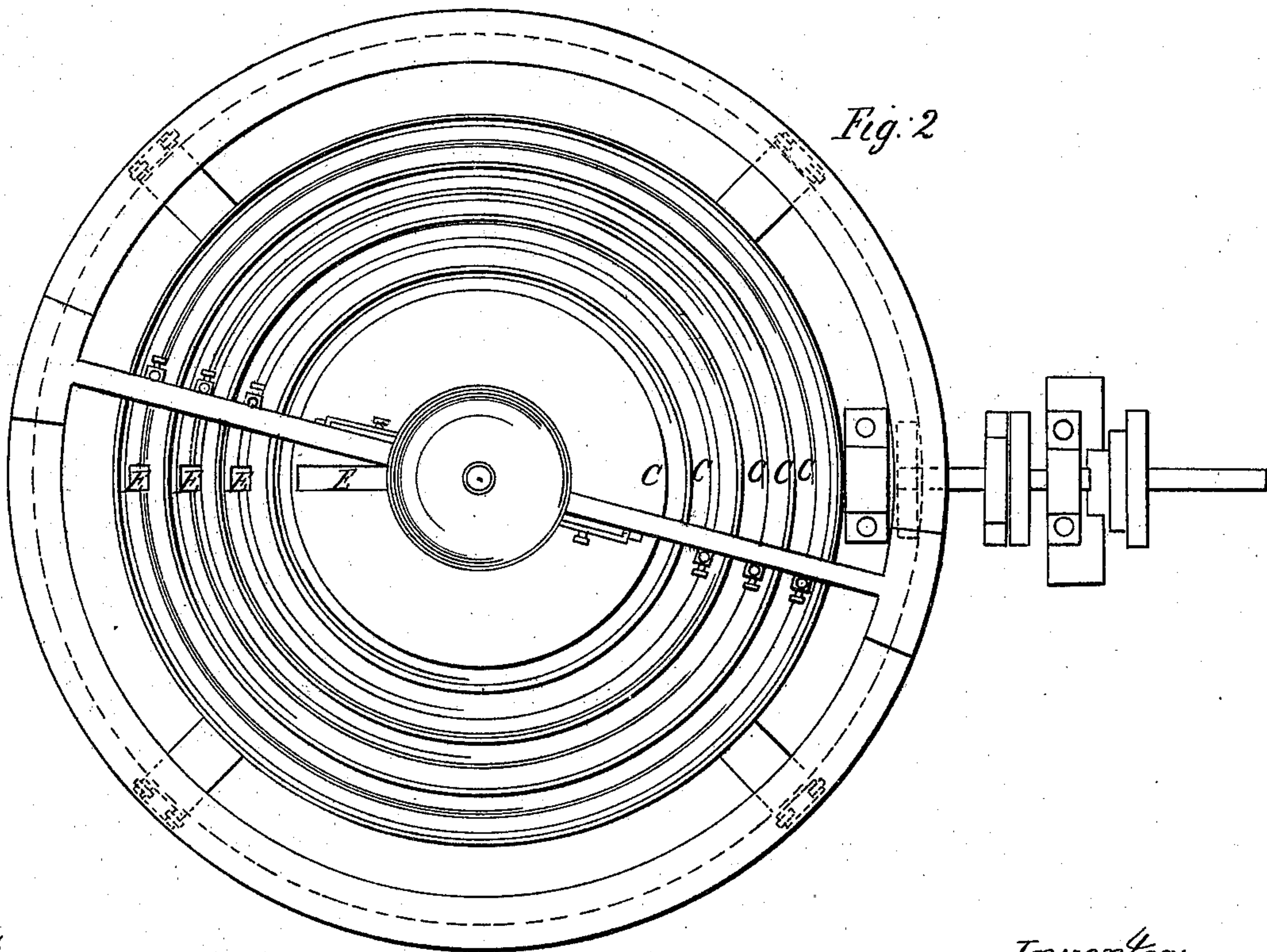
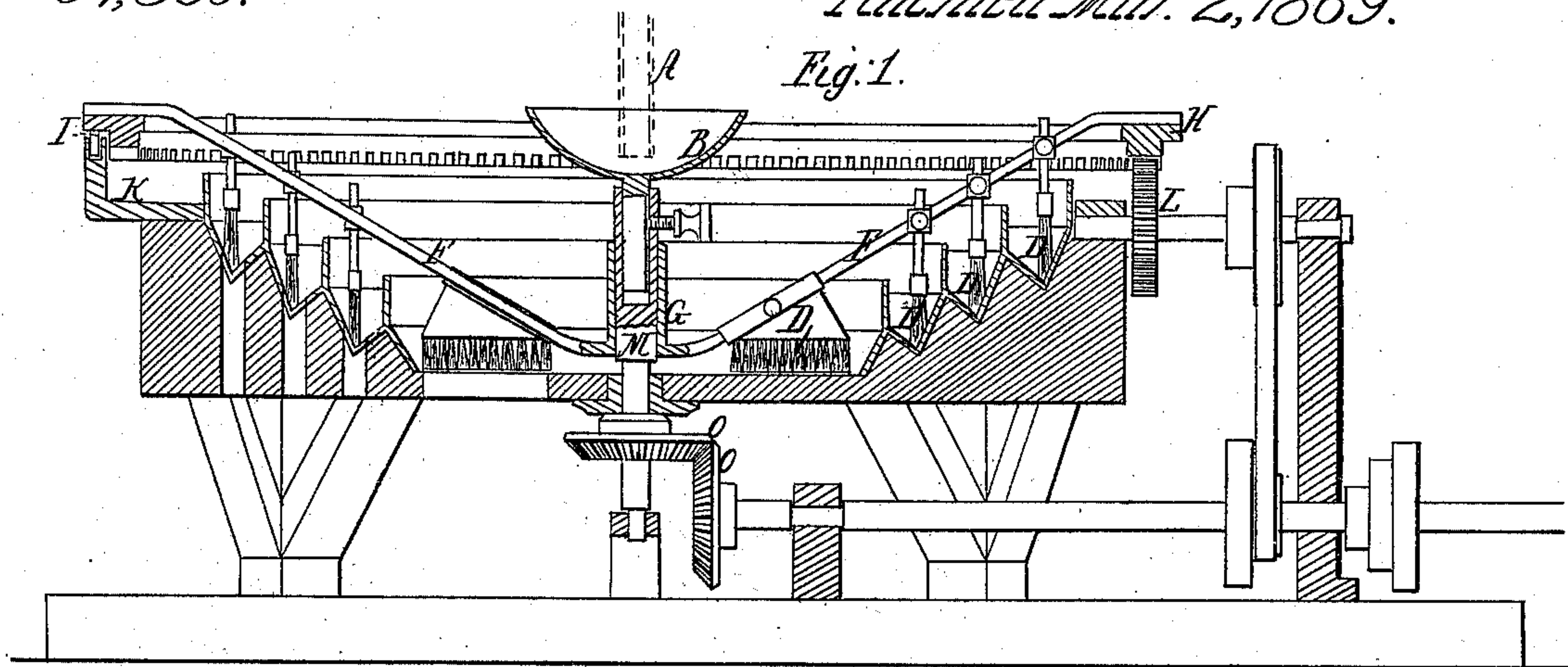


S. T. Pearce

Ore Separator

N^o 87,360.

Patented Mar. 2, 1869.



Witnesses,
A. B. Bunnell
Amos Morgan

Inventor,
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Attorneys

United States Patent Office.

S. T. PEARCE, OF NEW YORK, N. Y.

Letters Patent No. 87,360, dated March 2, 1869.

IMPROVED CENTRIFUGAL ORE-SEPARATOR.

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, S. T. PEARCE, of New York, in the county of New York, and State of New York, have invented a new and useful Improvement in Ore-Separating Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in ore-separating apparatus, such as described in the patent granted to me, August 4, 1868, whereby the separation is accomplished by the combined influences of centrifugal force and gravitation, under the action of which the ore is deposited, in regular gradations, in separate receptacles; and this invention relates especially to the arrangement of the said receptacles, and a method of removing it therefrom.

Figure 1 represents a transverse sectional elevation of my improved apparatus, and

Figure 2 represents a plan view of the same.

Similar letters of reference indicate corresponding parts.

According to the invention heretofore patented to me, as above referred to, the pulverized ore is delivered through an adjustable vertical tube, A, either to hollow horizontally-projecting arms from the bottom of the said tube, or to a disk or hollow vessel, under rotary motion, whereby the ore is thrown off by the centrifugal force thus communicated to it, and deposited at various distances, according to the different velocities acquired by the particles, and the resistance to the same of the air and gravitation.

Thus, those particles having the greatest gravity, in proportion to volume, will be projected the farthest, while those having these qualities in the opposite degree, will fall into the receptacles nearest the starting-point.

Instead of arranging the receptacles as therein shown for the delivery of the ore, I arrange them as represented at C, and provide therein brushes, D, having rotary motion around the central axis of the said receptacles, and

capable of brushing the deposit around to the spouts or conductors E, by which it may be carried away to receptacles otherwise provided for it, or to be conveyed to other separating-apparatus.

The plan I have adopted in this example for operating the said brushes, consists in suspending the brushes adjustably from arms, F, connected to a sleeve, G, supported on the axis of the disk B, and to a circular-toothed rack, H, supported on friction-rollers, I, in brackets, K, projecting from the framing, and operated by a pinion, L, which may be operated by any competent means, but any other preferred arrangement of the said parts may be adopted.

Instead of rotating the tube A, as in the aforesaid patented arrangement, I prefer, in this case, to fix it in a stationary condition, and cause the disk B to rotate, and for this purpose I suspend it upon a vertical shaft, M, and communicate motion thereto by the shaft N and gears O.

I also propose to make the said disk adjustable vertically, as clearly represented, whereby the flow of the pulverized ore through or over it may be regulated.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The combination of the annular receptacles C, provided with the openings E of the brushes D, and the distributing-disk B, or the equivalent of the latter, substantially as and for the purpose described.

2. The brushes D, supported upon the arms F, and connected to the sleeve G, and the revolving rack H, substantially as and for the purpose specified.

3. The disk B, arranged for adjustment vertically, and for operation substantially as and for the purpose specified.

The above specification of my invention signed by me, this 25th day of November, 1868.

S. T. PEARCE.

Witnesses:

F. BLOCKLEY,
ALEX. F. ROBERTS.